

# AMATEUR RADIO



Published in the interests of Amateur Radio  
by the W.I.A. (Vic. Div.), Official Organ  
of all divisions of the W.I.A., A.R.A.  
(N.S.W.) and the R.A.A.F. Wireless Reserve.



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# “AMATEUR RADIO”

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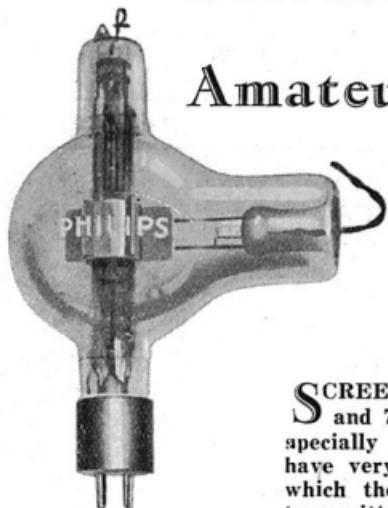
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# Screen Grid Valves

For

## Amateur Transmitters



Types:

QB 2/75, QC 05/15

1/4 of actual size.

SCREEN GRID Transmitting Valves for 15 and 75 watts have been designed by Philips specially for use by amateurs. These valves have very important properties, as a result of which the construction and adjustment of the transmitter can be greatly simplified. The control-grid and anode of these valves are screened from each other by a screen-grid, thus reducing

anode-control grid capacity to a minimum. When used as H.F. amplifier or frequency multiplier in controlled transmitters there is practically no reaction of the anode circuit on the grid circuit, and self-oscillation is impossible with screening outside the valve. Neutralisation is unnecessary, so it is very easy to alter the wave-length at short notice. These screen-grid valves give greater amplification than triodes under the same conditions.

Table A shows the various electrical properties of the Philips amateur transmitting valves:—

### CHARACTERISTICS:

Table A.  
Type.

	Screen Grid Valves.	
	QC 05/15.	QB 2/75
Filament voltage	4.0	10.0
Filament current*	1	3.25
Saturation current*	400	2,000
Anode voltage	400-500	2,000
Screen grid voltage	75-125	300-500
Max. anode dissipation	15	75
Anode dissipation on test	20	100
Max. screen grid dissipation	3	15
Amplification factor*	225	200
Mutual conductance (slope)*	1.4	1.4
Int. resistance*	160,000	150,000
Anode-grid capacity	.001	.02
Max. diam of bulb	50	100
Max. length	160	210

\*Approximate values.

# PHILIPS

## TRANSMITTING VALVES

# EDITORIAL

## POWER REGULATIONS

Among the regulations controlling the amateur one of the most important is that relating to the power allotted to experimental stations. Under the present arrangement a power of 25 watts is permitted, and it is quite obvious that noncompliance with this limit renders the holder of a licence liable to serious consequences.

With this subject in mind it is necessary to point out to our members that in the forthcoming Centenary contest the logs of all contestants are liable to be published, and therefore it is obvious that they must comply with the regulation governing power. The contest committee reserves the right to inspect the stations of all contestants, and check the power in use. Naturally this must agree with that shown on the log sheet. Any deliberate inaccuracies will lead to disqualification.

Deputy officials will be appointed for each State, and they will be responsible for the observance of this rule in their respective sections.

Furthermore, all experimental stations are likely to receive a visit from an official of the Radio Inspector's Department at any time to confirm the powers stated in the questionnaire recently completed. Experimental licensees, in their own interests, should conform strictly with the power granted by the department.

It is known that when radio inspectors recently visited certain stations the power used was in excess of that allowed or shown in the questionnaire

forwarded to the department. It is anticipated disciplinary action will be taken for breaches of the wireless regulations in all such cases.

## INTERFERENCE

Old man interference keeps bobbing his head up most persistently. Now that most VK hams have that P.M.G. questionnaire in hand we should all be on the qui vive.

Seriously, though, "what's to do about it?" An old proverb says, "Never trouble trouble till trouble troubles you." Interference, a veritable nightmare to some, is the exception to that proverb.

Build up the goodwill of your station by visiting the nearer BCL's in person. Ask them if they have received any of the various kinds of interference usually associated with ham transmission. Your conversation, you will find, will possibly drift into explanations of your transmitter, and what you can do with it.

Instead of an enemy you can very easily make a friend.

If trouble arises the BCL is sure to make contact with you, and not the RI. We know this system works, and works well.

Place the onus of the complaint with the listener, and your alibi is irrefutable. If conscientious, each ham will have made every effort to eliminate any cause for trouble. May we quote another proverb—"Prevention is better than cure!"

Now, hams, get busy proving that radio troubles are the exception to most other troubles in life.

# BALANCED E. C. OSCILLATORS

By G. Glover, A.M.I.R.E.

The use of directly-heated filaments in transmitting tubes represents a problem in (E.C.) electron-coupled oscillator design, as the entire filament must be isolated from earth (from R.F. point of view).

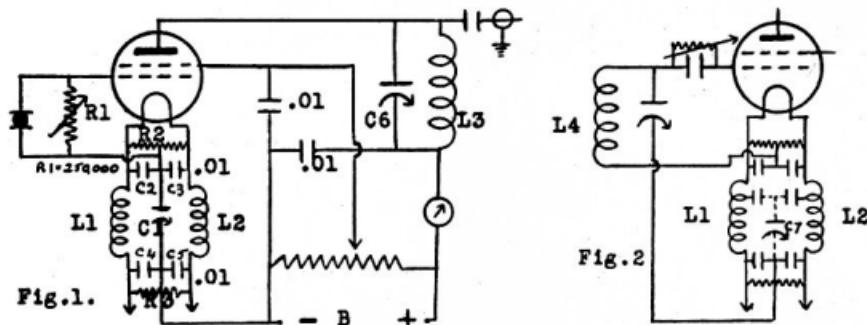
The three known methods of accomplishing this isolation are:—

(a) Use of hollow tube coils through which connection to other filament leg is threaded.

(b) Two coils wound on same for-

mer turn for turn, one being tuned and the other untuned.

(c) Employment of tuned coil in one filament leg, and R.F. choke in the other.



mer turn for turn, one being tuned and the other untuned.

(c) Employment of tuned coil in one filament leg, and R.F. choke in the other.

Each of these methods possess disadvantages, which in some cases increase in importance as frequency decreases and larger inductances and chokes are required.

The system about to be described was devised by the writer in order to overcome these disadvantages as far as practicable at 1060 K.C.

Fig. 1 depicts circuit diagram of the C.C. version of revamped oscillator, which is incidentally based on (b), the essential difference being that both coils are tuned. Reference to

frequency stability. This condition, however, is not applicable to anode circuit  $L^3C^6$ , because this portion of oscillator is essentially a voltage amplifier. Hence it must have high L to C ratio, the converse of oscillatory circuit.

Centre-tapped resistors  $R^2$  &  $^3$  provide balanced return or filament connection for grid and anode circuits respectively.

In S.E. version of oscillator depicted in Fig. 2  $L^1L^2$  each represent only a third of total grid inductance required,  $L^4$  containing other two thirds.  $L^1$  &  $^2$  in this case are wound on same former thus:— $L^1$  &  $^2$  are wound on together at bottom of former, and  $L^4$  is then wound on in same direction.

## Modus Operandi.

Oscillatory circuits of both forms of oscillator are adjusted in the same as their prototypes, the only point worthy of special mention being value of grid-leak, which should be set at maximum whilst preliminary adjustments are being made, after which value should be reduced until maximum efficiency is obtained, not maximum output. When critical value of resistance is reached oscillations automatically cease, because conditions of high grid swing cannot be satisfied.

Anode circuit is tuned the same as any other amplifier—that is, for minimum plate current.

The C.C. version of oscillator upon

which writer conducted his tests is at present efficiently controlling modulated-amplifier (QB 2/75) of 3YB.

There is another application for oscillator, that is, why not couple it to aerial in usual manner and operate it as one tube COPA or MOPA?

Furthermore, anode circuit may be tuned to harmonic frequency and used to control —1 amplifier tube of same or higher rating, depending upon harmonic employed. The harmonic output may be further increased by shunting  $C^7$  (as shown with dotted connections in Fig. 2) across  $1/n^{\text{th}}$  portion of inductance corresponding to  $n^{\text{th}}$  harmonic, and tuning this subsidiary circuit and anode circuit to selected harmonic frequency.

## HAM HETS HAM

If anything in ham radio has gone ahead during the past 12 months or so it is fone xmissions on the 200-250 mx band. As a matter of cold fact there is so much activity on these frequencies that it would appear almost impossible to find suitable channels for all who wish to operate. The object of these xmissions is primarily to keep ham activities prominently before the B.C.L.'s, and so create a niche for ourselves in the public mind, as I contend that it is only by giving real service that the ham can hope to retain the privileges which he enjoys to-day. If you will just place yourselves in the position of "listeners" any Sunday (day or night), with a really decent receiver, you will be astonished at the horrible heterodyning that is present, particularly between 230-250 metres, all of which I believe can be very easily avoided, if a common sense view is taken, and personal feelings sunk to the advantage of everyone and ham radio generally. Back in 1928 Victorian fone hams realised something of what was necessary, and a scheme (proposed I believe by VK3SW, then president of the division) embodying fixed frequencies with a 20 KC separation was submitted to the Chief Inspector of Wireless. The idea was very favourably received officially, and unanimously adopted by the section. In practice it gave excellent results, and was later extended to country stations. During the past year com-

pulsory Piezo Electric (xtal) control has been adopted on all frequencies below 1499 kc. (W/L of 200 mx and higher). To everyone interested it is very apparent that a similar scheme has now become an absolute necessity for the Commonwealth, with the possible exception of W.A., whose time differentiation of from  $1\frac{1}{2}$  to 2 hours leaves the sixth district gang in the happy position of having the air to themselves after the W.A. "A" and "B's" have closed down. Obviously the frequency allocations for all States will have to be worked out by one individual, and that could very easily be accomplished by the simple expedient of each district forwarding the number of active stations operating during Sundays. The allotted W/Ls could then be controlled by each district, with a reasonably good chance of successfully ending the present chaotic conditions. The third district country stations are allocated quarterly, but the metropolitan gang receive theirs monthly. In the case of the latter, allocations are strictly according to the merit of their work, an allocation committee of four non-active transmitting hams deciding according to their observations over the previous month. A xtal pool has been created, and all xtals are handed in at each meeting and re-issued according to the new allocations. Will each district secretary bring this suggestion before his next meeting, and so make an effort to end the present unsatisfactory state of affairs.—VK3TH.

# Centenary Single Signal Super

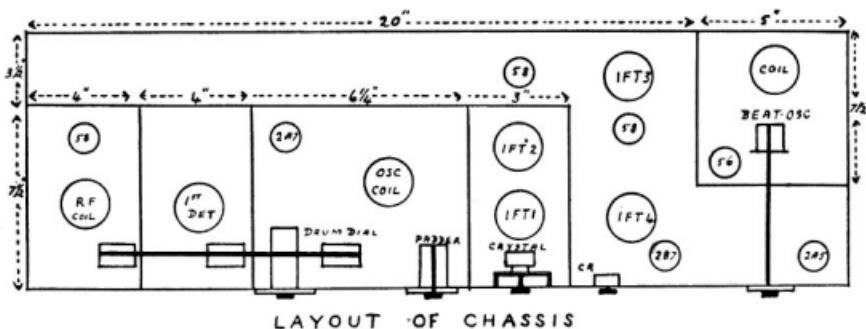
By VK3HK.

## Part II.

### Adjustments and Lining Up.

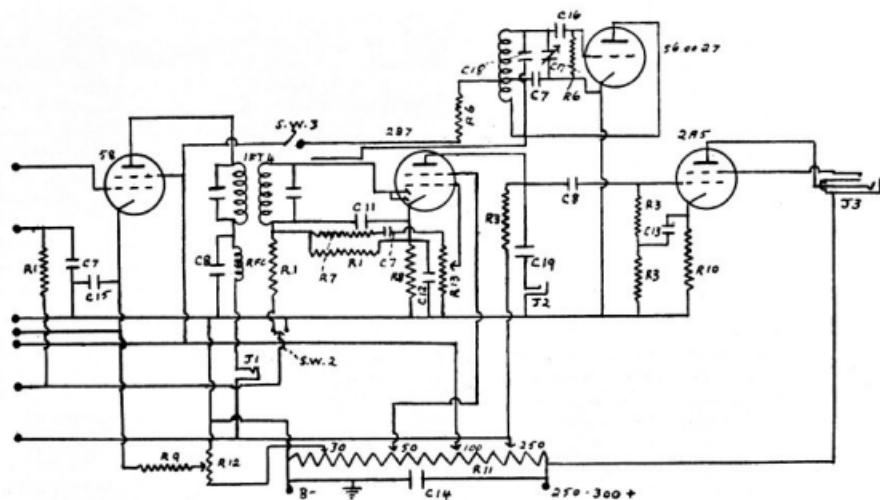
This is the stage we all like to get to, but make sure all voltages are adjusted to correct values first. First of all, put the quartz crystal in an oscillator, which can be your normal one, with a bigger tank coil for the occasion. Run a lead from somewhere near the tank coil of oscillator, but not connected to it, and connect it to the grid of the second I.F. tube. Now, with a meter in J1 (10 ma scale), and A.V.C. switched in, beat

when a signal is tuned in. Having made the coils, plug in the 3.5 mc set first; adjust condenser drum dial to 10 on dial (plates in mesh). Now switch on beat oscillator, switch off A.V.C., and adjust gain of I.F. by means of R12. Next turn first oscillator paddler dial to approx.  $2\frac{1}{2}$ , and tune in the 3.5 mc signal from a frequency meter; switch back to A.V.C. as in lining up I.F. stages, but turn up R12 again, and adjust detector series condenser to maximum dip.



oscillator off and R12 turned up (R13 is used as vol. control when using A.V.C.) adjust the trimmers of I.F.T.4 to lowest reading, i.e., resonance. Then move pick-up lead to first I.F. tube, and do likewise with the trimmers of I.F.T.3, then remove it and bring it near the crystal filter components. Now tune I.F.T. 2 to resonance. Finally go over all trimmers again very carefully, with pick-up lead coupled only sufficiently, or not at all, to get a small dip in meter. Use an insulated screwdriver (made of insulating material) in these adjustments. I.F.T.1 is adjusted later,

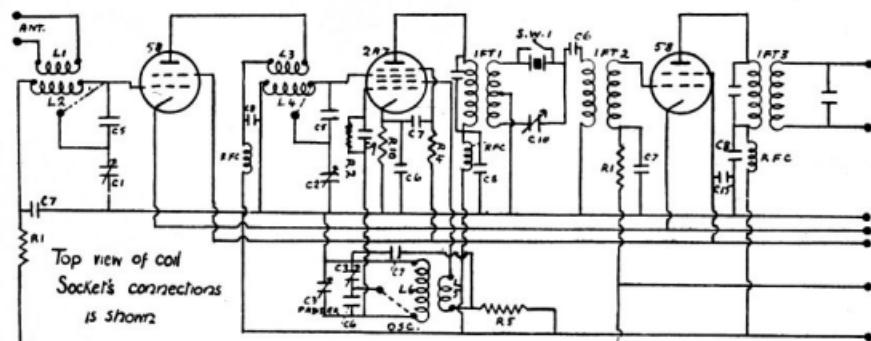
Forget R.F. coil as yet. Now follow the signal from frequency meter with drum dial alone to 4000 k.c. end of band. Then try the adjustment of detector series condenser again. If this capacity has to be increased to bring detector back to resonance the detector coil is too big and vice versa. When you are satisfied with det/osc tracking make similar adjustments on R.F. coil, not touching detector and oscillator again. At this stage I.F.T.1 can be lined up on this same signal. The 7 mc and 14 mc coils are done similarly, though greater coupling to frequency meter may be necessary.



CIRCUIT VALUES.

CL-2-3-4.—.000164 mfd. midget condensers (Espanay).  
 C5.—.0005 or .0001 mfd. adjustable mica or air.  
 C6.—.00005 mfd. mica (TCC).  
 C7.—.01 mfd. Pigtail paper type.  
 C8.—.01 mfd. mica.  
 C9.—.0001 mfd. mica.  
 C10.—3-plate midget condenser.  
 C11.—.00025 mfd. Pigtail paper type.  
 C12.—10 mfd. electrolytic condenser.  
 C13.—1 mfd. Pigtail paper type.  
 C14.—2 mfd. 500V. Mansbridge.  
 C15.—.5 mfd. Pigtail paper type.  
 C16.—.00025 mfd. mica.  
 C17.—13-plate midget condenser.  
 C18.—See text.  
 C19.—1 mfd. Mansbridge.

R1.—500,000 ohm 1W carborundum resistor.  
 R2.—50,000 ohm 1W carborundum resistor.  
 R3.—250,000 ohm 1W carborundum resistor.  
 R4.—10,000 ohm 1W carborundum resistor.  
 R5.—25,000 ohm 1W carborundum resistor.  
 R6.—100,000 ohm 1W carborundum resistor.  
 R7.—1 meg ohm 1W carborundum resistor.  
 R8.—4000 ohm W.W. bias resistor.  
 R9.—85 ohm W.W. bias resistor.  
 R10.—450 ohm W.W. bias resistor.  
 R11.—25,000 ohm voltage divider.  
 R12.—5000 ohm W.W. potentiometer.  
 R13.—500,000 ohm potentiometer vol. control.  
 RFC.—Honeycombe type B/C band RF chokes.  
 J1.—Closed circuit Jack for 0-10 ma meter.  
 J2.—Open circuit Jack for phones.  
 J3.—Fil control Jack for speaker.



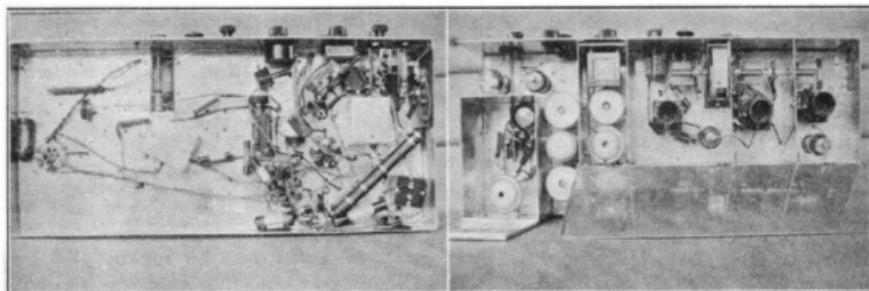
COIL DATA.

Dial Spread. Degrees.	Band. Kc.	RF				Det.		Turns.		OSC	Wire Gauge.	OSO Padder Setting.*
		L1.	L2.	L3.	L4.	L5.	L6.					
80-31	14,000-14,400	5 <sub>1</sub>	7 <sub>1</sub>	7	6	Same as 7000 Kc.		Grid coils 24 DSC				
80-24	7000-7300	9	17 <sub>1</sub>	13	13	6	6 <sub>1</sub>	others 30 DSC			57	
90-10	3500-4000	11	45	27	43	15	18	As above			52	
100-0	1050-2100	18	31	29	56	18	31	All 30 DSC			223	
								All 30 DSC			25	

\*100 degree dial—100 when at maximum capacity. All coils close wound, and coils spaced from one another by  $\frac{1}{8}$  to  $\frac{1}{4}$  inch.

One point to watch is to keep the final setting of the series condensers of detector and RF at exactly the same setting as on 3.5 mc band, and make any adjustments to oscillator coil as regards tracking. It is easier to do than it is to explain here. For 200 mx band all adjustments as regards tracking are made on oscillator coil. By loosening the set screws on the shafts of detector tuning condenser and RF condenser coupling these movable plates can be rotated by hand, and by checking on each end of the dial it can be found whether the oscillator is covering too wide or too narrow a band width, and alterations made accordingly to oscillator coil, the detector determines the coverage. Then detector condenser set-screws are tightened, and any adjustments made to RF coil to bring

a better minimum. To go over the adjustments again will be an advantage. It will be found if a good crystal is used the image to signal ratio is very surprising indeed. Switch out crystal, and note background level come up, and, if you were tuned exactly to the peak with the crystal in, there should be no rise in signal level. This is about all that can be said, and the adjustments are easy after a little experience, and it is seen what the filter will do. Background level goes well down; electrical qrm and natural static go down also with no lowering of signal. Local qrm from neighbouring stations is also greatly reduced. One point to be stressed is the importance of a good tuning dial, as the tuning is very sharp. At the same time the set is not difficult to tune; in fact, far nicer



An intimate close-up of the receiver layout and wiring.

this in line with detector and oscillator. This completes lining up and I.F. filter receives attention.

Tune in signal from frequency meter, say, on 7 mc band. Replace crystal in holder, remove short from crystal via SW.1, have A.V.C. in and beat oscillator off. Tune to bottom of main dip (it will be very sharp, so go carefully); make any adjustments to trimmer of I.F.T.I. Now switch off A.V.C., and beat oscillator on. Tune beat oscillator for a heterodyne of, say, 1000 cycles or so. Next tune drum dial through zero, beat to the same pitch of note on the other side. Here's the S.S. adjustment on C10 (which has a panel control); adjust for minimum response by ear carefully. Sometimes if the beat oscillator is tuned to the other side it gives

than a regenerative set. It is single control as far as tuning. All other adjustments are aids to good reception conditions. The crystal filter responds best to xtal pdc; rac is given less cordial welcome. However, by tuning beat oscillator to a different beat note, rac can be copied through pdc, and pdc through the roughest of rac easily. It throws the signal not wanted down, and brings up the wanted one surprisingly well. The I.F. filter will be found of value on phone where qrm is bad. Quality goes to pieces, losing all treble frequencies, but being quite intelligible for voice. Last but not least I can recommend this set as being the ultimate at present in cw. reception especially.

Any hams who would like to hear the original in operation are welcome. VK3LN has the original model.

# STATION DESCRIPTION

VK4GK is located at Wynnum, on the shores of Moreton Bay, and about 10 miles air line from VIB. Although the operator has dabbled more or less in radio since the days before Australia boasted a regular broadcasting station, it was not until being transferred to the present QRA that a serious effort was made to qualify for A.O.P.C.

The station first came on the air towards the end of June, 1930, with a TB04/10 in a TNT hookup, the plate supply being a BC power pack, the input varied from 12 to 15 watts. After four months activity with this rig we qualified for WAC, thanks to conditions obtaining on 14 mcs at that time. The following year a DET1 made its appearance (the result of much self-denial). As interest was now being taken in 56 and 28 mcs, it was our intention to use the new tube in a four-band TNT, but results were rather disappointing on 28 and 56

fected simply by altering the tank capacity.

A new power supply was made up for the DET1, consisting of 2 GUI rectifiers, using the ordinary filter, 4 mfd fore and aft of a 50 henry choke, a bleeder of 10 watt pilot lamps was arranged across the filter output, so that it only came into circuit when the key was up. By changing the lamps it was possible to match the two loads on the supply. No doubt this had much to do with the T9 reports that were so often received. It might be as well to mention here that in trying the above scheme it may be found necessary to use a capacity resistance arrangement across one or both of the key or relay contacts in order to prevent arcing or sparking.

This Tx. was used in the 1932 B.E.R.U. contest when, to use 3WL's words, "4GK ran away with the award for VK." It is housed in the first cabinet on the left of the operating table, and, although seldom used now, is still kept intact, perhaps more from sentiment than anything else. The second cabinet on the left holds the C.C. Tx., which consists of a '47 as C.O., a TCO4/10 as buffer or doubler, and a DET1 as P.A.; for several reasons 3.5 mc is not exploited by us, so a 7 mcs xtal is used in the C.O. This Tx. is quite orthodox, and little need be said regarding it, except that although better output and higher efficiency is obtained than from the Ultraudion it is sometimes hard to believe that the D.X. shares the same opinion. Phone is seldom used, but modulation is effected by connecting the secondary of the I to I transformer (output) of the speech amplifier into the grid circuit of the P.A. between the grid resistor and the bias negative. Bias is increased until the output drops about 50 per cent.; modulation is then upward, and good depth is obtained. The speech amplifier consists of a '24A coupled to a '45 by a Philips resistance unit. That nothing more elaborate has been constructed is due to the fact that the above seems to do its stuff o.k. The plate supply for the C.O. and buffer



mcs, so a change was made to series-fed Ultraudion. The alteration proved a very wise or lucky one indeed, as with this Tx. almost everything that was heard could be worked on 7, 14 and 28 mcs, and results on 56 mcs. were also encouraging. QSY was a matter of seconds, as direct antenna coupling was used. We simply unclipped ant., changed one coil, swung the tank condenser round a few degrees, clipped on ant. again and o.k. As the 7 mcs coil would tune to 14 mcs and the 14 mcs to 28 mcs by using low C, very often QSY was ef-

consists of two Philips 505 rectifiers, with the usual filter. Keying is in the filament C.T. of the buffer. This system is certainly worth a trial where there are fussy B.C.L.'s; only a small keying filter is used. There is also a push-pull TNT Tx. designed for 56 mcs. The job looks fb, but its performances to date belies its appearance. Altogether there are four receivers, a 56 mcs super-regen., an O.V.I., and an Electron-coupled detector, with one or two stages of resistance-coupled audio. The E.C. job is the most popular at present. Although one and two stages of R.F. have been tried, the results of our experiments have left us a little bit 3ML's way—at least, so far as C.W. is concerned.

A S.S. super, using reaction in the first I.F. stage, has just been completed, but still requires licking into shape. The Monitor, which was constructed before the station went on the air, is that published in QST a few years ago by Geo. Grammer; the valve used is a Philips A-109; battery upkeep is a small item.

There are two absorption type meters, one of which is calibrated from 4 to 6 metres. The vacuum-tube voltmeter is mains operated. This instrument can also be used as an external voltmeter or milliammeter, there being one megohm of wire-wound resistors built in the case, also the necessary shunt resistors.

The antenna system is the much "sworn at and by" Windom. This type performed well from the very first, and is not likely to be displaced. For anyone obliged to live in quarters as we do, it is most convenient. Anyway, one cannot chop too many holes

in other folks' property. The flat top, which is 66 feet 6 inches long, and just on 50 feet high, runs north and south. The feeder is attached 9 feet 4 inches from the centre. Radiation is obtained on all bands, 56 mcs being no exception; in fact, as far back as June, 1931, 5 metre fone was put over to 4GW in Northgate. The test was made after sunset, and the usual 56 mcs antenna had not been rigged up. This may have been the first 5 metre fone attempted in VK. Telefunken modulation was used. Before concluding this brief description of 4GK it might be in order to say a few words about the operators. The senior op. is not heard so often these days, but Madeline, probably the best known of the juniors, is on regularly, and tries to get at least one QSO per day. She is only 11 years of age, but seems to have plenty of confidence, so long as the OM keeps out of the way. May we take this opportunity of thanking all those "hams" who helped and encouraged her to get over "key fright." We know that the same consideration will be shown to her younger brother. They have taken to it quite voluntarily, and we have raised no objection; the gear or junk is here for their use, and they are at liberty to make their own tests and experiments. Most of the gear is of our own construction, power transformers, filter chokes, by-pass and coupling condensers, etc., also the cabinets.

4GK has been successful in winning the trophy donated by Mr. C. Gold (4CG), for the best station in VK4, for the third time in succession.

May we add that for some time we have been trying to obtain a firemen's W.A.C., but still require Africa and South America.

## (—CHALLENGE—)

Hamilton, N.S.W.

20/6/34.

It is hereby notified to the ham fraternity in general, and to stations 3WL, 3MR, 3RJ and 3OC in particular, that the undersigned stations do jointly and severally challenge the heretofore mentioned stations to compete with them in the Melbourne Centenary contest to be held in October, 1934, for a prize of £4. The said prize to be composed of 10/ donations from each of the eight competing sta-

tions, and to be placed in the hands of the committee in charge of the contest 14 days prior to the commencement of the contest. It is hereby also notified that the undersigned stations desire that the adjudication shall take place upon the total number of points scored by them in the open section of the contest as against the aggregate points of the herein before-mentioned stations.

Signed.—S. W. Grimmett (2ZW), J. C. Cowan (2ZC), L. T. Swain (2CS), A. Fairhall (2KB).

## CREEPING SIGNALS

By R. H. Cunningham, VK3ML.

The causes and remedies of creeping signals outlined below are purely from the practical point, and are the outcome of several years of experience at the writer's station in the operation of both self-excited and crystal-controlled transmitters. Perhaps there are many other causes not quite so common as those given here, but fortunately these have not been experienced at VK3ML!

There is an idea amongst many hams that once C.C. is installed all the troubles and bugbears of self-excited transmitters may be forgotten. Unfortunately this is not correct. Unless care is exercised in the choosing of the components and the design of same, one is likely to run across trouble.

Let us deal with the self-excited transmitter first. The most common cause of creeping, as drilled into us by those genii behind QST, is the employment of low C tank circuits. This has been dealt with very fully in that magazine, and will not be treated again here. However, on constructing a high C tank, it has been found that excessive creeping occurs when the components have been poorly constructed. As a matter of fact, the writer took great pains when making up a 25 watt T.P.T.G. push-pull oscillator, and was surprised to hear the signal swing over several degrees of the monitor dial. Eventually the trouble was traced to the tank condenser. It was a .0005 mfd receiving type with the plates closely spaced. On touching this condenser it felt warm. Here lay the source of the trouble. With the high tank current that is developed in High C circuits, particularly in PP oscillators, unless the condenser is well spaced, it will heat up, and in turn will heat up the signal. Remedy: use a condenser designed for the power used. Similarly, one should look upon tank coils, wound with high gauge wire, as being another potential source. From "flea-power" up it is best to use copper tube inductances and avoid the risk of creeping should the power be increased at any time.

Having thoroughly examined the tank circuit and satisfied oneself that it will "stand the gaff," the only other part of the circuit to inspect is

the grid. Here two causes have been discovered. Firstly, the grid tuning condenser. This may not influence the tuning to such an extent that the tank condenser may, but on one occasion the cause of a creeping signal was traced to it. The trouble was caused by a leaky piece of insulation that allowed R.F. to hop across it when any grid current flowed. One cannot be too critical when choosing a B/C condenser for the transmitter. Only the best of them deserve promotion to the ranks of transmitters. The second cause located at one stage was due to a poor connection in the grid circuit wiring. This immediately set up an RF resistance that took a delight in sliding up and down a thermal-resistance scale! Last to be mentioned under the SE heading, but certainly not the least possible source of trouble, is the overloading of tubes. When overloaded, a tube's elements are naturally working under a great strain, and consequently are liable to expand, thus causing a variation of all its characteristics. Even with a very high C tank circuit it is possible to vary the tube's shunt capacity to such an extent that it acts like a vernier to the tank tuning condenser. Remedy, use tubes in accordance with your licence!

Now, turning to the crystal controlled transmitter, there is less likelihood of creeping than with the self-excited rig, but it is like constructing a building with concrete without reinforcing it with iron; it is not so good as it might be. A crystal will do a certain amount of work, but must be assisted by a good layout and components. The chief cause of creeping with CC has been found to originate in the grid circuit, due to (a) poor contact to crystal holder plates, and (b) run-down bias batteries, both of which introduce high resistance losses. If the crystal should heat, then, naturally, one must expect a change in frequency. Overloading a small tube as CO is apt to produce crystal heating, because of the excessive RF grid current. Hence the use of a pentode as CO is justifiable, because of the smaller RF current that will flow, compared with a three electrode tube. Bias batteries in all stages of a CC set should be checked periodically, as they have been found to cause many a grey hair when trying to locate the lost amperc or so that used to go up the aerial!

## SIMPLE LATTICE MASTS

By J. Rich-Phillips, VK3CD.

In this article the writer may be accused of plagiarism from notes on these affairs by Beckley in QST some time ago, but as my mast was erected many months prior to his I can plead "not guilty." The need had long been felt for a mast which would support the tightly drawn feeder systems of three separate Zepps without buckling all round the compass, but owing to a natural dislike for manual labour nothing was ever done, although all sorts of plans were drawn up. When, however, some of the local B.C.L.'s started shoving up white Oregon poles something had to be done to keep the ham flag flying.

Cost had to be kept down, and as hardwood was about the only timber to be obtained in an up-country timber-yard this was used for uprights, latticework being ripped down out of old boxes, benzine cases and the like. All wood was planed up. Although a lot of extra work, this saved much paint. A further economy was effected by getting whitelead, raw oil, etc., and mixing it at home. Three coats were applied at decent intervals, the last having a dash of blue mixed in to whiten it, and a few drops of dryers.

Four guy wires were used, at the top, at 40 ft., and at 20 ft., No. 12 galvanised fence wire being used for these. Total cost of 60 ft. mast was well under 30/. Hams in the vicinity of a timber-yard would be well advised to make inquiries regarding planed stuff, as a neater job can be made with much less work if decent timber can be got reasonably.

A start is made by joining up the four corner pieces. Lay them out on a hard, level surface (the writer's mast was made in a sheepyard!), and join with an ordinary halved joint, allowing two feet overlap and securing with a couple of  $\frac{1}{4}$  in. bolts, first painting inside of joint and bolts thoroughly. A square section job is suggested, tapering from 17 in. square at bottom to 6 in. at top for a 60-footer. A solid section is placed every 10 ft., which prevents any tendency to get out of square. These are next made from 6 in. x  $\frac{1}{4}$  in. boards in two

layers, the grain of one layer being placed at right angles to that of the other, like plywood, and well nailed. Top is fastened to a block of red gum 6 in. square, 9 in. long, tapered to correspond with mast. As a matter of fact, tapering is not important, as appearance will be just as good without. The main point to watch is that uprights are securely fastened to top block, which is really the "keystone" of the whole thing. Having made up all the section squares and the top block, place them in line and at correct distances, and place one of the uprights along one corner. Let it in flush with the sides, nail with 2 in. nails, staggered to get a better grip, and secure uprights to top block with  $\frac{1}{4}$  in. bolts, run right through. Lay another upright on the other corner, and treat it likewise; then turn assembly over and fix the other two uprights similarly. If desired, one upright can be fixed to each side of the squares instead of two on one side and two on the other, but this entails more work, and is not warranted. The mast will now begin to assume some definite form, and a start can be made on the latticework. Make sure the job is lined up correctly and is firm and level before nailing the lattice strips on, as it is difficult to correct bends afterwards. Mark the side into sections two feet long, and lay a strip from the left bottom corner of the first section to the right top corner, and from the right bottom of the next section to the left top, and so on right up the side. A moment's thought will make this clear. When this side is finished turn right over and do the opposite side, in this case starting from the right bottom to the left top, and so on, so that the mast, when completed, presents a criss-cross side elevation. The thing by this time will be getting fairly firm, and when the remaining sides are completed in the same way the mast will be beautifully rigid and it will be possible to pick up the top with practically no sag in the middle.

Many ways of securing aerials to the top could be suggested, but this will depend mainly on what the builder has in mind. The writer fixed a cross-tree to his mast, one arm of which supports the 20m antenna and provides a firm anchorage for the dead feeder. This enables feeders to be pulled very taut without sagging the antenna itself, the disadvantage,

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T.C.C. High-Voltage Transmitting Condensers have been used practically exclusively by the "A" and "B" Class Broadcasting Stations throughout Australia, and also by all the leading Amateurs.



Type No.	Capacity.	Height.	Width.	Thickness.	Working Voltage D.C.	Price.
121	.00025	1 $\frac{1}{2}$	1 $\frac{1}{2}$	$\frac{1}{2}$	1500	12/1
121	.002	1 $\frac{1}{2}$	1 $\frac{1}{2}$	$\frac{1}{2}$	1500	17/11
101	1 mf.	5	2 $\frac{1}{2}$	1	800	18/6
101	2 mf.	5	3	1 $\frac{1}{2}$	800	24/6
121	1 mf.	6	3	1 $\frac{1}{2}$	1500	24/6
121	2 mf.	6	3	1 $\frac{1}{2}$	1500	37/-
141	1 mf.	6	6	2 $\frac{1}{2}$	2500	76/6
141	2 mf.	6	6	4 $\frac{1}{2}$	2500	136/-

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List Price £5/5/- Complete

The Harlie Mike has approximately .25 volt output. It is self-contained, having matching Transformer and Bias Battery incorporated in base. Complete with On-Off Switch.

Height adjustable from 13 in. to 18 $\frac{1}{2}$  in.

of course, lying in the fact that the antenna and feeders had to be fixed before erecting. The 40m wire is run over a pulley fixed in the end of the cross-tree, and the halyard is run down the centre of the mast itself. For 20m a vertical wire is suspended from the opposite arm of the cross-tree, and the feeder system connected at the bottom.

For lengths up to 60 ft. at any rate no special apparatus is necessary. After all usual precautions as to clearing guy wires, halyards, etc., one end was blocked against the mounting posts (4 ft. 6 in. red gum posts, sunk

firmly in the ground to coincide with corners of mast), and with the aid of three hefty and admiring locals pulling on the guys and pushing, it was easily raised. The corners were bolted to the posts, the guys tightened and mast trued up.

The resulting job is well worth the trouble, both for appearance and service. Personally the writer would like to see such a type at all ham stations, even if only to be different from B.C.L.'s. He will be very pleased to make clear any details, but the job really is very simple once a start is made.

## A HAM ABROAD

(By A.R.A. Special Foreign Correspondent.—VK2NR.)

I have been in England for nine days now. The trip has left me feeling very fit, but I must confess I feel very strange over here. That is not the fault of the G hams, believe me. They have been splendid, and have gone out of their way to make me feel at home.

G2MI, with whom I had kept a long sked in Australia, met me on arrival in London. He showed me to the hotel where Clarry (G6CL) had booked a room, and carried "umpteen" pounds of luggage for miles and miles.

Later on I went out to Maidstone, and saw his (2MI) station. He uses a T610 in the final, and gets fb results. Maidstone, to improve your knowledge, is in the centre of Kent, which was looking its best when I arrived. The trees were just getting their leaves. Every possible shade of green exists in English woods. While at Maidstone I met three other hams of the district, and with us all talking at once, conversation was novel and interesting. I met the famous G2ZQ, but his station was in the process of being rebuilt. Later I saw G5YH, who has a very neatly built station with T610 in the final. He gets out splendidly, and contacted VK2HC for me. Wasn't I pleased to work old Ray from "the other side"?

Earlier I had met the great "Clarry," and he is certainly an ener-

getic one, and it's no wonder the BERU, RSGB membership is now over 2000. It is he who is responsible for the society's smooth running. We discussed many topics, chiefly, of course, the BERU contest. The rules for the next contest may be considerably different from those of the last, but the whole matter is in a state of flux, so comment would be unfair.

Birmingham.—Coming here I met a wonderful gang, and G6XQ, an old friend on the air, exceeded any of my expectations in his welcome. I shall leave a report on 6XQ, 5BJ, 6DL, and ye olde 5ML over to next letter, but I can say that G5ML is a marvellous station—e.g., 2-1KW bottles in final stage on 20 and separate TX for 40, with even bigger tube. Tubes in P.A. cost about £60 to £80 (bear up, VK's) Australian money, and the rest of the gear is on the same lines. Besides such gear 5ML is a wonderful operator, and a great ham, so no wonder we hear him. Photo. of 5ML and more dope next time. Cheerio, VK's.

JACK 2NR.

## HARMONIC

Harry Kinnear, the new president of the Victorian division and editor of "Amateur Radio," left VIM last Wednesday on a business trip to the New Hebrides: and since his departure Harry's residence has been considerably damaged by fire, caused, according to the newspaper report, by a short circuit in a radio set. As the family cat has a habit of investigating the works of the BCL set, possibly sparks were caused by the cat's whisker.

## CORRECTION

(To the Editor.)

Sir.—I have read with interest and appreciation the article by Mr. H. R. James, which appeared in the July number of "Amateur Radio." I feel, however, that it is desirable to point out an apparent error which occurs.

After deducing the total voltage gain required in an amplifier intended to fully excite a 250 from an input of 0.3 volt, Mr. James states that number of stages required equals:

$$\frac{\text{Total required gain}}{\text{Gain per stage required}} = 40 \text{ stages}$$

He has apparently assumed that the total voltage amplification is equal to the sum of the gains in successive stages, whereas it actually equals the product of the gains in successive stages. Thus, 40 stages, each giving a gain of 7, would give a theoretical overall gain of—

$$7 \times 7 \times 7 \times 7 \times \dots \times 740 \\ = 6.37 \times 1032!$$

It will now be seen that if  $n$  be the number of stages required  $u^n = \text{total required voltage gain} = G$ , where  $u$  is the effective gain in each stage. Hence  $n \log u = \log G$ .

$$\text{Since } u = 7 \text{ and } G = 280, \\ \log G = 2.4472 \\ n = \frac{\log G}{\log u} = \frac{2.4472}{0.8457} \\ = 2.895.$$

Hence, under the conditions imposed, three stages of impedance coupled 227's would a little more than fully excite a 250.

A similar correction is required for the immediately following example—thus, if the amplification per stage be 15

$$n = \frac{\log G}{\log u} = \frac{\log 280}{\log 15} \\ = \frac{2.4472}{1.1761} = 2.081$$

Hence, two stages of high M.U.A.C. tube amplification would be required.

—Yours, etc.,

W. H. BLACK (VK3WB).

[We wish to thank, through these columns, the many other interested hams who have been good enough to point out and correct this mistake in Mr. James' calculations.—Tech. Ed.]

## OPERATING AND EXPERIMENTAL SECTION

Devoted to Amateur Operating, Contests, Communications and Tests.

Conducted by VK3ML (Traffic Manager Vic. Div.).

It has been a long-felt want that we should have a section in this magazine specially devoted to the above phases of the ham game. "Amateur Radio," now being soundly established, offers an excellent "bureau" for collecting information from experimenters and helping to hand it around to others. Some occasional advice and helpful hints on these various subjects are sure to find a home for themselves in many shacks. In starting this section we are sure to overlook many important items that could very well be dealt with under this heading, and, as the column concerns all readers, we would appreciate your suggestions for its betterment.

Operating is one of the weak branches of amateur radio throughout the world; otherwise we would not have special articles treating it in nearly every ham magazine printed. The obvious reason for this is that we are not called upon to imitate commercial stations by constant communication and traffic handling, and we are satisfied with only getting into communication with one another and exchanging reports and greetings. Consequently, this is done in the best manner thought necessary. Unfortunately, the P.M.G. Handbook does not go into the procedure to its fullest possible extent, leaving much to the imagination of the amateur operator. Therefore, without the valuable aid of QST and other publications, operating would be a very haphazard and go-as-you-please matter. So, with a view of trying to create a standard and a snappy sense of operating, we are going to print a series of "Notes on Procedure" each month with the hope that this might help clear the air of useless qrm caused by unnecessary dit dit dit dit da da, etc.! We invite you, too, to contribute your advice on operating for the benefit of this section.

Work on the ultra high frequencies is a matter that calls for co-operation on the part of all the hams that take an active interest on these bands. Reports have arrived from W that great work is being done this season up to 1500 miles on 28 mc, and we should expect something to happen here also. Without co-operative efforts the battle to overcome present difficulties will be harder. We mean that unless each man, each State and each country pull together and co-operate by means of definite schedules, we are going to take a long time to achieve what we think is possible on these ultra high's. Having created this "bureau" we are contributing our share towards organised efforts in that, with the support of all members and divisions, we can organise schedules that everybody will know will be kept.

"Amateur Radio" can act also as a centre for data obtained, technical, meteorological or otherwise, and pass it on to other members of the fraternity. We have plenty of dope on 56 and 28 mc, and we are going to lay it on thick from now on, as Australia wants more and more hams down on those frequencies working together under a definite organisation with "Amateur Radio" as the "Information Bureau." Then we will get somewhere—otherwise nowhere.

Each division has been asked to appoint one representative for the supplying of reports on the activities in his State monthly, and for extracting all possible data from his fellow-workers for this section. Next month we shall

publish a tentative schedule for both bands for all States. By this time we hope to have some Interstate notes and arrangements for publication. In the meantime, please get in touch with your divisional secretary for further information.

The R.S.G.B. is conducting a 28 mc contest over a period of twelve months, and the complete set of rules is set out hereunder. Reports of reception should be communicated to the society through "A.R."

## CONTEST RULES.

1.—The contest is open to all licensed amateurs. 2.—The contest will commence at 00.01 G.M.T., October 1, 1934, and will conclude at 24.00 G.M.T., September 30, 1935.

3.—Licensed power must not be exceeded.

4.—Contacts may be established at any hour, and on any day during the contest period.

5.—One point will be scored for each completed 100 miles of contact, with a specific station (e.g., contact with a station 99 miles away scores no points, contact with a station 658 miles away scores 6 points). All distances will be measured by a great circle line between stations.

6.—A minimum signal strength of QSA3 must be recorded before a contact counts for points.

7.—In computing his final score a competitor may claim points for each different station worked once during each calendar month.

8.—Proof of contact in writing may be required by the contest committee.

9.—The decision of the president of the R.S.G.B. will be final in all cases of dispute.

10.—Entries must reach the secretary R.S.G.B., 53 Victoria street, London, S.W.1, not later than November 15, 1935.

G2YL seeks a sked with a VK, for 28 mc! Any offers? Here's your chance to try and create a record by a VK for 28 mc. G2YL, whose QRA is Miss Nell Corry, Redholm, Walton-on-the-Hill, Tadworth, Surrey, England, will look forward to hearing from at least one VK re 28 mc, so all interested write her please.—BERS 195.

## 28 MC TEST.

We are indebted to VK3JJ for the following information:—

WSCRA, Cannonsburg, Pa., wants to work Australia on 28 MC, and will be testing on 28,008 kc at 0300 G.M.T. (1 p.m. M.S.T.) each Saturday and Sunday in August. If heard, he will appreciate a report.

Having an excellent location, and 852 Final, WSCRA should be one of the most likely W's to get across. His signals on 14 MC are very strong, and heard at all hours of the day and night.

## A.O.P.C. SYLLABUS.

For the benefit of those desiring to study for their "ham ticket" following is the syllabus for amateur operator's certificate of proficiency.

The examination embraces the undermentioned subjects:—

(a) Transmitting and receiving (by sound) at a speed not less than twelve words per minute (five letters being counted as one word).

(b) Knowledge of the adjustment and operation of low-powered apparatus; and

(c) Knowledge of the principal abbreviations and regulations laid down by the International Telecommunication Convention.

2.—In order to qualify candidates will be required to:—

(a) Send plain language morse signals on an ordinary telegraph key for five minutes at the prescribed speed. The accuracy of sending, the correct formation of characters, the correctness of spacing, freedom from errors and the ability to recover from breakdowns will be taken into account.

(b) Receive and transcribe legibly plain language morse signals at the prescribed speed from a double headgear telephone receiver or loud-speaker used in conjunction with an audio-oscilla-

tor. Where an audio oscillator is not available a buzzer may be used.

(c) Know the functions of the various components used in low-powered radio transmitters of all descriptions. General knowledge of the underlying principles and types of radio receivers.

(d) Know the most common faults in radio transmitters and receivers, and the methods usually adopted to remedy them.

(e) Know how to vary the transmitted power, and the radiated frequency (wave length).

(f) Know how to test and charge accumulators, and the usual steps taken to keep them in good condition.

(g) Possess an elementary theoretical knowledge of electricity, magnetism, high frequency circuits and radio principles generally.

(h) Possess a good general knowledge of sections Nos. 2, 3, 4, 11, 13, 14, 17, 22, 67, 69, 74, 76, 78, 82, 86, 90, 94, 96 to 105 and 107, and appendices I, and III., and the following abbreviations in appendix II. of the Postmaster-General's Handbook issued by the British Post Office.

QRA, QRG, QRH, QRI, QRJ, QRK, QRM, QRN, QRQ, QRS, QRT, QRV, QRW, QRX, QRZ, QSA, QSB, QSD, QSO, QSR, QSV, QSX, QSZ, QTR, QTQ, C. N., AA, AB, AL, BN, CL, CS, GA, MN, OK, WA, WB, XS, REF, RPT, QUA, QUC, QUD, QUF, QUG.

3.—There will be three operating tests and a written examination. The written paper will consist of one paper containing seven (7) questions on theory and three (3) on regulations, and two hours will be allowed for its completion.

4.—For the receiving tests candidates should provide their own headphones if this mode of reception is favoured.

5.—To secure a pass candidates must obtain at least 70 per cent. of the total marks allotted in each subject.

6.—Copies of previous examination papers may be obtained at this office on payment of a fee of 6d. per set, and the undermentioned textbooks will be found useful in connection with the study of the technical portion of the examination:—The "Radio Amateur's Handbook" by American Radio Relay League, and the portions of "Admiralty Handbook of Wireless Telegraphy 1931," enumerated hereunder:—Paragraphs 1-17, 20-71, 75-87, 92, 94, 101, 107-141, 153, 154, 161, 164-167, 169, 175-180, 182, 184-189, 278-282, 290, 298, 306, 349-352, 354, 367, 368, 371-385, 387-389, 394, 405, 407-414, 492-502, 506-519, 526-532, 536, 542, 543, 545, 546, 553, 555-560, 563-566, 569-573, 575-581, 586, 587, 589-591, 595-610, 619, 620, 622-659, 663-667, 669, 671-701, 703, 704, 706, 708-716, 724, 732, 735, 739, 753, 754, 756, 757, 768-771, 818-828, 830, 831, 843-853 and appendix A (omitting references to spark and direction finding).

7.—Examinations are conducted on the second Tuesday in January, April, July and October by the Senior Radio Inspector at each capital city. In the case, however, of candidates resident in the country who are unable to proceed to a capital city, arrangements will be made for examinations to be conducted under the supervision of the Postmaster at the official post office nearest the residence of the candidate on dates coincident with the metropolitan tests.

8.—Full details concerning the examination arrangements will be furnished on receipt of the examination fee of 5/-, which should be lodged, together with an appropriate application in writing, at the office of the Chief Inspector (Wireless) at least 21 days prior to the examination.

9.—The fee for the issue of the certificate is 2/6, but it should be understood that a certificate cannot be issued to any person who has not attained the age of 16 years.

10.—The Postmaster-General's Handbook can be obtained on application to the Chief Inspector Wireless at a cost of 1/3 each copy.

# VK3 SECTION NOTES

## Key Section

Z0—VK3BJ.

The usual monthly meeting of the section was held at Kelvin Hall on July 3. Over forty attended, and we were pleased to welcome several new members, among whom were 2JX, 3CS (ex-7CD), and 3XQ.

The annual election of office-bearers took place, and 3RJ, 3BJ and 3KN were elected to the respective offices of chairman, secretary and council delegate.

It is up to the gang to give these men their whole-hearted support, and any suggestions for making the meetings more interesting would be very much appreciated.

In conjunction with the short-wave group visits to places and installations of interest will shortly be undertaken, and as many of the gang as possible are asked to roll up on these trips.

It is pleasing to note that among the recent new hams are three members of the short-wave group—Messrs. Quinn, Manning and Argoon, who have the respective calls of 3WQ, 3XJ and 3IT.

3HT is now on 7 and 14 MC under the call 5DT, and he would be very pleased to contact any of the boys. He is building a small T.P.T.G., as it takes too long to start, each over, VKZ's engine and generator, which supply juice to the big crystal rig.

QRZ will no doubt be pleased to know that 3XF is now using xtal after all these years of self-excited.

Separate xtal rigs. are used on 7 and 14 MC by 3JQ, but owing to a severe illness he has not been on the air of late. We are pleased to learn, however, that he is now much better, and we hope he will soon be up to R9 again.

Mucking about is all 3DT is doing at present. What with, Val? YL's??

Since coming to VK3 from Tassie 3CS has been married to a Hartley, but is contemplating a three-stage xtal rig in the near future.

3MK heard with some punk fone on 175 meters.

3ZQ has at last got his receiver working well, but his absence from the air is, I believe, attributable to YL QRM.

BCL QRM has been troubling 3DP, but he has cured the trouble by putting R.F. chokes in the BCL's ants.

3BW has just installed an 800 in his PA, and finds it much more efficient than an RV258.

A wonderful sig. on 14 MC comes from 3MR, who uses 47, 47 and 852 final. Plenty of dx. is worked on 7 and 14 MC with this outfit. 3JO just manages to keep on the air to work his brother, 7OJ. Xmitter now in use is a tritron. 59 co. and f.d., and 46 p.a.

3LQ recently sold his car, so will be on the air more often.

I recently had the pleasure of hearing 3LN's crystal controlled single signal super, and it certainly is the goods. In a location such as his, with trans on two sides, this type of receiver shines above all others, as sigs. can be easily copied on it, whilst on an ordinary receiver the QRM is terrible.

3JJ has at last become self-conscious of his scratchy sig. on 14 MC, and is building a big xtal rig.

Rebuilding is being undertaken by VK3OC. The new rig should be something out of the box. Ray, o.b., if it is anything like that receiver of yours.

3PR is still up the country, and has not run time for radio these days. (Was down specially for general meeting.)

3HC will shortly be back on the air after several years of inactivity. He will put out high quality fone on 14 MC. I would be very pleased to receive any dope from the gang. It should be possible to make these notes something like those of VK2.

## Phone Notes *solo*

By the time these notes are in print the new chairman and secretary will have been installed, and I sincerely hope that they, with the whole-hearted support of the members of our phone gang, will be able to see recorded for this coming year a progress better than ever before.

We, with our publicity resources available, ought to be able to more speedily help to increase the membership of the institute and the sales of "Amateur Radio." We all know that it is quite in order to make announcements as often as we like about anything pertaining to our institute, so let's think up some original systems of letting our listeners know all about the W.I.A. and "Amateur Radio," keeping in mind, of course, the regulations. As long as our remarks refer wholly to the W.I.A. to the exclusion of all else we will not be violating the regulations.

And now we come to the very important item of interest in the phone section—competition! Preliminaries are going along nicely now, and by the July meeting on Tuesday, 31st, these will have been completed, and the gang will be, I guess, anxiously awaiting the announcement of the final six call signs.

A meeting of the competition committee was held on Tuesday, July 3. Due to lack of entries from the country stations, it was decided that at least one only shall be included in the final six.

The competition committee secretary (Mr. J. Kling, 3JB) undertook to instruct the judges on the finer points of the judging system, which included the importance of keeping in mind the relative R1-9 and Q.S.A.1-5 way of recording strengths in view of the importance of this aspect of a transmission as received in New Zealand.

A motion was carried that the frequency to be used by the six finalists would be 1173 Kc., and that crystals available from the "pool" would be utilised. Also it was moved by Mr. Thompson (3TH) and seconded by Mr. Manning that the finals would be put on the air on the 12th, 19th and 26th of August, in order to allow time for the necessary information to be published in the New Zealand "Radio Times."

Finally it was moved by 3TH and seconded by Mr. Kerley that a first prize in the form of a Ferranti electric clock be donated. There will be absolutely no excuse now for the winner if he is late in any subsequent transmissions.

In conclusion, I would like to say that I hope our new secretary (unlike myself) will be overwhelmed with news of the phone section from the members, in order that these notes might be of greater value to all.

## VICTORIAN QSL BUREAU.

Cards are on hand at the Victorian Qsl Bureau, 23 Landale street, Box Hill, for the undermentioned stations, and will be forwarded on receipt of a stamped envelope:—3BC, BP, BR, BX, BZ, CA, CK, CM, CW, ER, ES, ET, FB, FC, FM, GA, GC, GU, GW, GX, JL, JW, KM, KO, KQ, LD, LE, LP, LX, MM, MZ, NC, NG, NW, OF, OP, OZ, PC, PK, PN, PZ, QJ, QZ, RN, RW, TO,

TM, UJ, WB, WD, WK, WP, WX, XF, XK, YF, YL, YR, ZF, ZK, ZV, Messrs. Dinan, Bennett, Mawman, Garraway, Nihill, Salter, Hecker.

The emigration from VK7 still continues, and latest advices show that the next to cross to the mainland will be VK7GE, Geo. Every, Qsl manager for VK7, who shortly after August 1 will be domiciled at Queenscliff, Vic. We are glad to have you, Geo., and hope to hear you under a VK3 sign very shortly.

The additions to the VK3 ranks caused by the influx from Tasmania has been offset, however, by the following Interstate moves by VK3 hams:

VK3HT is now VK5DT, located at Alice Springs.

VK3OT is now VK4OT, located at Maryborough, Queensland.

VK3BD is now VK2EP, located at Canberra.

VK3FX is now VK2IM, located around Sydney.

VK3NT is now VK5LM.

VK5LG advises that he shortly will be located at Balmoral, Vic., and should he remain there any length of time will be on the air under a VK3 sign.

Island cruises have become popular with VK hams, but whether to soothe and rest the DX-racked frame or to dodge the irate BCL is not known. The latest to propose a jaunt of this description is Ken Rankin, VK3KR, who hopes to visit Fiji during August.

Will the pirate who has been using the call sign VK3ZR please note that this call has been issued to Gilbert Moody, 27 Lennox street, Yarraville, Victoria.

Our sympathy and best wishes for a speedy recovery to Tom Dale, VK3TD, who unfortunately sustained concussion and shock when a police patrol car skidded and somersaulted at Malvern, Victoria, on July 17.

Consequent upon the departure of VK7GE from Tasmania, Jack Batchelor (VK7JB) has been appointed Qsl manager for VK7.

## COUNTRY NOTES

### NORTHERN AND MALLEE NOTES.

Conditions in the north during the past few weeks have been extremely patchy. 3KR reports some activity on 40 and 20. On July 15 he worked 14 Yanks and VP1AM (Ocean Island) on 40, but conditions on the 20th at the same time were "off," and he only worked one W. By the way, Ken, is taking a trip to Fiji next month, and going via VIS and VIB. Intends to look up many friends made over the air. The Birchip gang are all on QRP (on 3CH's town DC supply). 3WE most active, and, despite his power, has rolled up a total of over 70 phone contacts on 80 for the month, all States (ex 6) and ZL being included. 3LH, being still minus converter, has built a TNT on the mains, while 3CH, awaiting a suitable tranny for his 500-cycle alternator, has blossomed out in a three-stage MOPA.

3OR, despite "expert" assistance from 3KR (who puts on bias batts, wrong way round) is troubled with downward modulation. The no-meter experts, 3ZK, have got a meter at last—500 mills.; maybe they pirated it from local power station. The 80 band is undoubtedly the most popular at present, especially in VK2; in fact, the bulk of the QSO's from here have been with that State. Had quite an interesting time on 2nd in a 5-way fone hook-up, 2HU, 4YG, 3PY, 3ZL and 3WE participating. We looked for 6's and 7's to widen the hook-up, but none offering at the time. 5BR is the most consistent VK5 here, but is closely followed by 5LR, 5IV, 5WJ and 5MD. Although at week-ends the 80's are like a Chinese joss house very few VK3's are heard up here (except the northern gang). The few city stations heard seem to have mistaken

80 for the BC band, and grind out records by the hour, especially 3KT and 3YF. Only city 3's worked here of late were 3BQ and 3KE. Rumour has it that 5XR is coming back to the fold again; the home re YL's must have sunk in after all.

How's this for freak conditions? On Sunday afternoon, July 15, worked 5BR from 1330 to 1615 solid copy on fone. Yesterday (22nd) contacted him at 1130, and called in 3CE for three-way QSO, and found conditions tricky. On one particular "over" 5BR's sigs, practically disappeared for portion of the over, and suddenly rose to Q5R8, and remained so for balance of the over. I remarked on this, and 3CE reported the astonishing fact that he had heard him 100 per cent. up to then, but not after. As Roy (3CE) is only about 20 miles north of Birchip, the freakiness is at once manifest. Opposite to this is the fact that some 15 or more W's and K's can be heard Q5R5 at between 1700 and 1830 nightly on 3900 to 4000 kc. Have heard them working duplex, traffic handling and in contact with ZL (all phone). Several W's have expressed a wish to contact VK on 80's phone, but for success herein I think it would be necessary for us to QSY to above 3850 Kc., as above this is the Yank CW band—and is it full?

### WESTERN DISTRICT NOTES.

(ZO—30W—3HG.)

The number of hams in the Coleraine district has been increased to four, 3JE, formerly of Chelsea, being now in Coleraine, where he is working overtime on service jobs. Bill will be on the air as soon as work eases off sufficiently to allow time to get his gear together and adapted to the 230 volt D.C. supply there.

3GC is now on the air from his new QRA, at Bairnsdale.

Conditions, which have been rather poor here lately, have improved somewhat, and Yanks are again easily workable on 40 and 20 mx.

3AL, Ballarat, although kept very busy at his job as engineer at 3BA, seems to make time for a good deal of experimenting, and recently carried out some tests, with break-in phone, of the "push-to-talk" variety, with excellent results. Alf. also has just completed an s.s. super, and says he is beginning to realise what selectivity really is! The transmitter also is being rebuilt, and is expected to be completed in a few days.

3PG still using xtal lock, with a 40-metre xtal, and though results are good on 40 and 20 metres he reports that the xtal doesn't do its stuff so well on 20 metres.

After using a dynamotor (kindly loaned by 3NN) during the R.A.A.F.W.R. relay contest, 30W is considering installing one in place of the alternator. A good click filter will be required if this is done, as clicks were very much worse with the dynamotor than with the present A.C. supply.

Tube keying of the buffer stage was given a trial one day, but without much success, as the clicks locally were worse than with the key in the P.A. H.T. lead, hil. So guess some experimenting will be necessary before the B.C.L.'s are silenced.

## NEWS FROM FEDERAL HEADQUARTERS

By G. B. Ragless, Fed. P.O.

The Federal executive were very surprised that so few entries were received for the QRP contest (the second leg of the Fisk trophy competition), and not a little disappointed. It was a long time ago when the previous QRP test was held, and as there seemed a demand for it by a request from a division it was arranged. Con-

sidering how often QRP stations complain that they have no chance in other contests, because of the difference of the power employed, the small entry was deplorable.

Possibly this state of affairs is caused because the State councils are not providing attractive prizes for competition among its own members, but surely the members have the remedy in their own hands if this obligation is being neglected.

When the third contest is held towards the end of the year we hope much greater interest will be shown.

The Federal officers are at present engaged in the checking of the reports, and full results will be published in the next issue.

#### Commercial QRM on Amateur Bands.

It will be remembered that this matter was discussed at the last convention, since which the secretary has been in touch with Mr. K. B. Warner, secretary of the I.A.R.U.

From this source it appears that they have the matter well in hand, and a satisfactory cessation is expected shortly, following representations being made. It will be recalled that the Russian Government (in whose territory most of the stations are) did not recognise the Washington conference of 1927, but attended the recent Madrid conference, and was a signatory to its decisions. These decisions must be ratified by the Soviet Government before they are binding, and as soon as this is done it is expected that the I.A.R.U. will take the required steps to have the stations removed.

#### Royal Birthday.

The following message was sent by the traffic manager (Mr. F. M. Gray) to Mr. Arthur E. Watts (president of the R.S.G.B.) for despatch to H.R.H. the Prince of Wales in accordance with B.E.R.U. custom:—

Members of the Wireless Institute of Australia and all other amateurs throughout the Commonwealth join in extending to His Royal Highness the Prince of Wales sincere loyal greetings for a happy birthday anniversary.—(Signed) H. N. Bowman, VK5FM, Federal president.

## THE ASSOCIATION OF RADIO AMATEURS (N.S.W.)

#### A.R.A. NOTES.

##### Scandal from Headquarters.

The past month has been one that has shown very little activity, barring, of course, the usual monthly meeting, etc.

The three field days arranged should prove a great success. The first next Sunday will be well supported according to reports and promises up-to-date. The rules, etc., are published in another portion of this paper.

The second Fisk trophy passed successfully, and it is a pity the local talent was not more interested. A QRP contest, however, does not seem to invoke much support.

The usual monthly meeting was held at the Y.M.C.A. on July 19. The field day was discussed, and support afforded it.

Three new members were elected—2AE, 2MT and 2FT. The first named, David Adams, must be incidentally the youngest ham in Australia, and has only just attained 14 years of age.

2GS, our newly-elected technical officer, is now looking after lectures, etc., and a debate with Zero Beat Club was arranged. "Plate versus Grid Modulation"—2GS, 2ZR, and another representing the A.R.A. 2FT, a navy op., entertained for a while with some interesting stories.

2PG discussed the possibilities of manufacturing badges, showing the call signs of the indi-

vidual ham. Two of the heavy weights, Hams 2DU and 2HZ, are both in bed with bad knees. Guess their knees won't support 15 or 16 stone, while flu is taking quite a toll. 2OH, 2HY and others are the sufferers.

#### RE A.R.A. FIELD DAYS.

At the committed meeting held on 5/7/34 it was decided that a series of three field days be held, extending over the months of July, August and September, to take place on the last Sunday of each month, i.e., July 29, August 26 and September 30. Each field day to be held in a different locality, the first within an eight-mile radius of Liverpool. A cup to be presented by the A.R.A. to the entrant securing the lowest number of points over the series.

The hidden transmitter will go on the air at 10 a.m., and will operate continuously until 3 p.m., with the exception of a half-hour break between 1 o'clock and 1.30 p.m. for lunch.

Points will be allotted on the following basis. Each contestant will be debited with one point per minute, commencing from 10 a.m. until such time as he reaches the hidden transmitter. Any contestant not finding the transmitter by 3 o'clock will, of course, have been debited with 300 points. The contestant with the lowest number of points over the series will be declared the winner.

The following details are agreed to in connection with the first of the series, i.e., that to be held on Sunday, July 29:—

(1) Cars and contestants to be assembled outside the railway station at Parramatta at 9.30 a.m.

(2) W. Picknell to be charged with the responsibility of locating a suitable position for the transmitter, and for placing the same in position ready for operating at 10 a.m. on the date in question.

(3) All those attending are reminded to bring with them the necessities for lunch and tea, as it will not be possible to make any arrangements for catering such as has been done previously at Wyong.

(4) Members will lunch between 1 p.m. and 1.30 p.m., when the transmitter goes off the air, and will continue their search afterwards.

(5) At 3 p.m. and continuously for fifteen minutes, i.e., until 3.15 p.m. the location of the transmitter will be broadcast, and it is desired that all participants make their way to the same, when tea can be taken in picnic form by those assembled.

(6) In view of the fact that points are being allotted on a time basis, the transmitter will be kept going over the whole of the period stated, irrespective of whether the same has been located by contestants or not; thus a participant who is, say, the 8th, 9th or 10th, to arrive at the transmitter will secure an advantage over those arriving afterwards.

(7) Members of the committee may take part in the search, and receive recognition for locating the transmitter; but in the event of any one of them qualifying for the cup the same will be presented to the contestant next in order of merit, not being a member of the committee.

#### ZONE 1 NOTES.

Jim 2PE is heard occasionally on 40 metres cw; haven't heard of him for some time. The Broken Hill gang seem quiet, although 2DQ is heard amongst the dx at times.

#### ZONE 2 NOTES.

2O—2HV.

Zone 2 chaps will be pleased to hear that Ray, of 2HC, who has been ill for some time, is now back home again. He has been ordered a rest from radio.

2KR collects the belt for the most consistent ham in zone 2, and turns out some very fd stuff on the peanut outfit. Cecil contemplates high

power when Gunnedah installs A.C. Look out then, Cec o.m.

A cordial invitation is issued by Teddie, of 2CR, to all and sundry to come up and see him some time on 80 metres (wish I could, Teddie, o.m., but BCL's will be BCL's). The rig there is the same 4-stage xtal, and RX AC three. 2nd op. Jack awaits his call sign. Congrats, Jack, o.m. Sa, o.m.'s a voice from the dead. Ever heard of an ether buster from way up north called 2WT? Well, Russ is staging a comeback. Say, o.m., the old TMC fone gang are howling for you, so don't be long. Do you remember 2WU, 2ET and 2CR (HI).

Wonders never cease. 2ZF is back on 7 mc. Arthur threatens to W.A.C. on 7 mc. ere this year passes. Well, anyhow, o.m., good luck. 2HV, over a brief vacation, in VIS, is rebuilding to MOPA, and hopes to gain experience ere installing xtal. Bet he misses those RAC reports then (HI). Say, o.m., any junk left in VIS? No notes this month from the rest of the gang.

### ZONE 3 NOTES.

The North Coast gang revel in intimate 80 metres fone QSO's, and with the aid of 4GG and 2KR form a pleasant entertainment to listening BCL's. 2CR, 2WS and 2NL have particularly strong signals, and quite good quality on 80 2CR, being possibly the strongest in Sydney. Crieff 2XO can also be heard with a very solid CW, and fone signal from the Garden of Eden.

### ZONE 5 NOTES.

Eric 2BP has the misfortune to be off the air, due to doctor's orders, and is unable to furnish any notes, but while off will build the Centenary T.R.F. of 3WL and 3OC from "Amateur Radio."

### ZONE 6 NOTES.

Zone officer for this section is also very QRL. 2NM, of Dubbo, puts out a very fine transmission on 80 and 240 metres, with the aid of a final amplifier of P.P. 210, Heising modulated.

### ZONE 7 NOTES.

During the early part of July conditions on all bands show a distinct improvement, and it is to be hoped that we will experience something like normal conditions for the rest of the winter. 3.5 mc. has been fairly active lately, with some good fone rag chews in progress. The Wagga gang—2WO, 2TH, 2YW and 2JA—are all active on this band. 2WO celebrated its first birthday on June 13, and to mark the occasion a special test transmission of recorded items was given on 240 metres, reports coming in from as far as VK5. 2YW also inhabits the publicity band occasionally, and puts out some very f.b. music. 2TH effects 7 mc. transmissions occasionally, and worries BCL's with key clicks. There appears to be a new addition to the Young gang in the person of 2TM heard on 3.5 mc. with QRP. 2FI back on QRP again pending further changes in power supply. 160 metres was attempted a few days ago, but the antenna proved too big an obstacle, so a new one will be tried shortly.

### ZONE 8 NOTES.

After many weeks of building and rebuilding the Albury gang are showing a little more activity. 2YI has a 3-stage crystal cc rig, but is having trouble with P.A., and waiting for 500 v. tranny. 2QD has a 2-stage MOPA on 40 mc., using single 46 in P.A., with about 10 watts. Antenna is single wire Hertz. 2OJ has 4-stage cc. on 40 metres and 80 metres, with two TCO410's in P.A. and 100 watts, half wave Zapp. VK5JC (ex 2JC) is on again with MOPA and T9R6 here. Where are you, Jack, 2DN? Not heard for a long time, also 2VF and 2JJ, how come? 2EG is still raising W and K6 with the ole 210, and getting R5 through poor conditions on 40 metres. Has separate SE rig and Vert. ant. for 20 metres, as his P.A. won't neutralise on 20.

## NEWCASTLE ZONE NOTES.

### A.R.A. (N.S.W.).

The Newcastle gang are at present flourishing under the guidance of the Newcastle Amateur Radio Club. Two new hams have come into being, Mr. G. Cowan, 2ZC, of Adamstown, and Mr. R. Glassop, 2RG. We wish to heartily congratulate these boys, and welcome them to the ranks of ham radio.

The Newcastle club has just concluded its first contest, and was it a wow? Voted by all hands the best ever staged. The contest was a miles per watt, with rules so framed that every member could enter regardless of his power with some measure of success. The contest was won by Gerry Challenger (2OF), with twenty-five watts, who worked 23 yanks. The contest lasted six days, and the operating time had to total no more than 12 hours. The minimum operating time was one hour, but more than that time could be used at one sitting. The times of the contest were limited to 4.30 p.m. till 7 a.m. each day, with 2 p.m. the starting times on Saturday and Sunday. Lionel Swain, 2CS, worked 20 yanks, Jim Cowan (2ZC) 25 yanks, 2ZW worked 20 yanks, 3VE's, 3J's, 3KT's, PK, VS2, VS3. 2RG worked 9 yanks, which was a wonderful effort for his first week on the air, and he is to be congratulated. 2ZC also worked OA4J, and thus added another continent to his list. Jim has done wonderful work for such a short time on the air.

Club nights in Newcastle have become the mecca of all hams in the district, and the club has the unique distinction of having a membership absolutely confined to licensed hams, ALL of whom are active. Under the circumstances it claims to be the finest club in Australia. Any dissentients?

It is all very well to be the holder of a ham ticket; but it is claimed in this district that that is not enough. Every ham should attempt to justify his existence, and use his privileges at least as far as it is in his power to do so. The stations in this district are rapidly improving, and most of the hams boast crystal. Amongst those rebuilding are 2KB, who is installing in easy stages an 852 with 3000 volts on its plate, and driven by a National 203A. The set is being built in a steel frame, and the tranny does the eyes good, sitting up in its own drum of oil. One wonders why he wants all this gear, as Allan, on 25 watts, worked 19 yanks, and could have worked a lot more had he used all his available transmitting time. He, incidentally, came second.

The net result of the husky sigs being put out within the small district of Newcastle is a rapid growth of super hets., of which we have three working fb and many more to come.

2MT had trouble with his 21 xtal in the contest, the p.a. refusing to neutralise. However, Charlie managed to get it going shortly after the contest, and his usual fb sig is there again. 2FN has shifted his QRA again, and is, therefore, able to have the RI bar removed. Geoff. had a lot of bad luck with BCL QRM in his five-metre work last year, and has been virtually off the air for a long time. 2UF is having a patchy time at present owing to poor receiving conditions in his location, which not only affects him, but causes a great deal of trouble amongst the BCL's also. He does a great deal of work on 20 metres, and has worked a long string of Yanks on that band.

The zone extends its sincerest sympathies to Max Austin (2KZ), who has recently lost his mother.

Very little is known here of the coalfields gang, who seem to keep religiously to themselves these days.

# Amateur Radio

## WESTERN SUBURBS WHISPERINGS.

A.R.A. (N.S.W.).

By VK-2-MY.

2DW.—Has changed his 46-s from P-P to parallel, and finds they are much more efficient. Also has been trying alterations to his antenna, with improved results. Seems strange that while all textbooks advocate the superior results from PP—2DW, 2FO and myself have had far better results from 46-s in parallel.

2JT.—On xtal, and seems to find his new QRA better for DX than Lakemba. Charlie comes in very solid, but must find the fence gang a trifle inconvenient when chasing DX.

2MY.—QRL rebuilding, and trying to persuade a tape transmitter to work. When do I get that biscuit, "QRZ"? Anyhow, can I offer you a suggestion, old boy? Give the time and date of the observation; it will help a lot, whereas with no date it is useless. TNX. Here's one that's not a fish yarn. My antenna is 15 feet from ground at each end. Decided try some angle radiation, so stuck another pole on the shack end, and gave the antenna a bit of an angle on the CQ W-9. XM gave me QSA 5 R 6, so decided to try another few degrees. On going out to haul the antenna up found that the dead feeder had fallen off, and was lying on the ground.—Marconi, hi.

2FD.—Now on with Tritet rig a la QST, 59 CO 59 FD ES 210 PA, which he reports as fb. Gets R8 from K6. Had lot trouble with an ancient BCL set while on fence. Solved the problem by switching antenna around 45 degrees. Seems to be bitten with rifle shooting bug lately.

2ZH.—Mac is running neck and neck with Alan, of 2AH, for the position of DX king in VK2. Can hear him working DX stations that I never even hear every time he is on. Worked Cuba last week, thus completing WAC on both, 20 ES 40 fb, old boy.

By the way, did you hear the little story about Mac, the other night, or rather the morning after the ARA dinner? Mac arrived home very early (in the morning), and decided to chase a little DX before he turned in. He gave a good CQ, and listened in very carefully. Not a ham on the band, but dozens of commercials. Oh, well, CQ again a real long 'un. Results ditto: never heard so many commercials. Oh, well, I'll turn in. Investigations next morning showed that Mac, had his receiver tuned to 30 metres.

2PT.—Charlie is one of the 5 M/x gang, and spends most of his time down there waiting for the DX to break through. Rather a curious thing down there, although most of 'em can hear one another they don't seem to work each other. 2PT-s 50 M/x rig is a sight for sore eyes, and sure gets solid. Uses a pair of 210-s in PP in PA of 4-stage CC.

2GR.—Seldom heard on 40, occasionally on 80, and always on the BCL band. Judging by the letters he gets from ZL listeners, Alec, is more important than lots of the B stations. Believe that 60 ft. pole has crashed. What's the trouble, Alec? White ants or 2 JG-s key clix get it.

2FO.—Seems to be fast developing into 80 m/x fence fiend. Has changed his PA from 46 in PP to 46 in parallel, and finds it lot more efficient. Also spends lot of time on 5 M/x.

2MW.—Not heard much on 40. Another of the 5 M/x gang, when on 40, has a nice T9 sig.

2WR.—Is reported to be changing his QRA again. Back to Bellevue Hill. Methinks the BCL sets are even worse out here, Alan, than in the eastern suburbs. Which reminds me of a good 'un.

A well-known western suburban ham suddenly caught the fence bug, and proceeded to pump canned music out for hours at a time. The morning after one hectic session his next door neighbour, a rather hellicose individual, hailed the ham over the back fence. "Say, do you know that I got six new stations on my wireless last night."

"Go on," bit the unsuspecting lid, "and who were they?" "You, you Blanky," came the snappy answer, and for the next week CW reigned supreme.

5PK and 5FB are due in VIS on a flying visit during October. 5PB's sky wire would put any A class station to shame. No wonder the VKs find DX easy.

Ralph, of 5PK, should have a very pleasant hour or so with 2ZH, trying to find a country that the other has not worked.

Anyhow we are looking forward to seeing them, and showing them "our arbor es our bridge."

2RY.—Ivan is another convert to the Tritet. Has been very QRL building a super. Now can report Yanx R max on 20. (Most of mine appear r 3 Hi).

2OM.—Another to catch the rebuilding bug. New rig well under way to consist of a 5-stage rig with a Z3 in the final stage. After one lamp at the bottle I was inclined to think that it will take a small powerhouse to work it. Hi. Jack at the present time is vy QRL hunting BCL offenders es QRM fer the R I.

2QR.—Sorry to hear that Bob has been on the sick list at present. He is on holidays in VK4 for five weeks, trying to regain his health. Giving the Yanx a rest, eh. We all hope you are quite recovered, Bob, and soon back with the gang.

2PG.—TNT DC sigs, loop fence. Now I ask you, Ronnie, what sort of a carrier would it be? Received a report from Ivan Skivinsky in Moscow, fb, o.m.

2BX.—Seems to have given 5 M/x a rest, and comes in 'R9 on 40. Bert must be glad that 2 OM is QRL, as their antennas practically touch each other.

## NORTH SHORE ZONE.

### Z0—2DR.

40 mx is still belching forth much DX and 80 is a bit querulous as to when its turn will come. However, there's a fair sprinkling of hams up there now.

2AE takes the bug this month. Can you beat this: Dave told me that in a recent mandarin eating competition he graduated to second place by putting down 130 in an afternoon! What a boy! 2AE has been working yanks hand over fist with his 3-stage xtal, and has developed a good fist on that bug of his. Experiments with a buzzer in his key lead were successful as regards DX, but were a ghastly wash-out in the opinion of the locals, who had to bear the brunt of the fierce QRM, so 2AE has wisely abandoned the idea.

2AH is building service equipment, and has decided to abandon his idea of rebuilding his xmitter for the present.

2BA has been on 20 a bit. Bruce is looking well; evidently the sea air suits you, o.m. 2BJ has been heard on 80 mx with fence, which has evidences of a few bugs still to be slain. Hope to hear more of you, Keith, o.m.

2CE is new chap out at Harbord. Would like to hear from you, o.m.

2DA has now 3-stage xmitter, with Tritet 59, 46 buffer, and two 46s in pa.

2DA is thinking of adding an 852 as the fourth stage. Harry has been working 3-way skeds, with VPIAM and VE5HC. Has anyone beaten this for a three-way DX sked? I think the record's yours, Harry, o.m. WIA/ARA traffic skeds, with VK3, are now running.

Sa, you budding A.O.P.C. aspirants, take note that 2DR sends Morse practice on 30 mx on Tuesday nights between 7 and 7.30 p.m. Sydney time, the various groups of morses being checked over on fence. I have already quite a large class making use of these practices. Come in on it, chaps; let me have your reports, and I'll include your name in the list of those taking

the practice. This list is read out on fone before the practice starts. 2AG was given a supposed FB T250, but found that the electron ejector had thrown in the sponge (hi). Hard luck, o.m. However, remember that T250s aren't usually given away with a pound of tea!

The current-fed aerial at 2DY recently came down much to Don's disgust. 2EL has been on 40 a lot, and I think he was on 20 the other day clg CQ DX. Eric is departing for ZL shortly.

2HF is building new 11 tube super, with xtal filter, in preparation for Centenary contest, and hasn't had much time to be on the air. 2HG still works DX after midnight. Isn't your bed comfortable, o.m.? 2HI is thinking of building PP 45s or 10 in SE rig. 2HY has installed new Philips mercury vapor rectifier, and reports the output doubled. Roy was using half wave rectification previously. 2HY has added XIAA to his fb list of DX worked.

Poor old Bill (2HZ) has been laid up with a bunged knee, and has been working much DX and locals from his bed. 2HZ "is elated over working a yank on 20 mx. A QSO with U.S.A. on 20 from Bill's location is a signal for celebration." (Hi) 2JY hasn't been on much. 2EZ has been active at Killara with a sig. which sounds TS, although emitting from a perk using 45s in TNT! The antenna at 2EZ is current fed, and is only 10 ft. high! 2LD is thinking of putting in Tritet CO.

2VQ is situated at 260 Pacific Highway, Artarmon, and is using pp 45s in Colpitts. Signs vary from PDC to RAC.

2OT has been heard at last on 40 with fb sig. Evidently the navy is in port at last. 2AK is active again on 40 with CW. Paul has rebuilt his rig. 80 mx has seen quite a bit of 2KJ and his fone.

2KM has found DX fair during the month. Tom has been vy QRL, and hasn't been on the air much. 2KM has PDC sig., but with a bit of a chirp.

VK3FX has come to stay in VK2, and will be on the air shortly with new VK2 call. Welcome, o.m., and please start the day well by letting me have a little news occasionally. 2LU is a new ham in Lane Cove. Con. of 2LZ, has been on the BC band, and has many ZL reports to his credit up there.

2LZ says that there are quite a few Europeans, VEs and Js coming in on 20 mx in the early mornings, but they are extremely difficult to work. Tennin and fone just about fill 2NG's time. 2NW is using 46s to drive 10s in pp in the PA. 2NP has been consistent on 40 and 20. 2OE is out of the radio profession now, but still keeps up his interest in ham radio. 2OE is interested in high speed Morse. 2RD is thinking of staging a comeback. Reg. recently acquired a YF, but evidently ham radio isn't entirely out. Hope to hear you in the future, o.m.

2TB has been heard on fone a bit. 2VR is chewing over the idea of building a new shack in the back yard. 2VG gave me some valuable advice on grinding crystals. With Rex's system both grinding the crystal and grinding the teeth are reduced to a minimum. (Hi) Now, Ian (2XC) has rallied round tremendously by letting me have news from the Mosman chappies. I'm deeply grateful to you, o.m. The only active hams in Mosman appear to be 2FM, 2UG, 2PV and 2XC, all being on 40 mx. However, 2XR was heard on one night, the first time for about a year. 2XR uses an 852, so all the boys feel very jealous and upset, as it is a playground for spiders, dust, etc., for nine-tenths of the year.

2XG is another one with a really fb rig. (TC04/10s in pp.), who hardly ever appears nowadays. 2FM is about the most active station

at Mosman, and uses a 3-stage xtal with a 210 in final. 2FM and 2XC seem to be the only DX inclined ones (hi), and between us we have worked quite a few yanks. 2FM excels, however, and has been working quite a few Europeans in the late afternoons on 40 mx. Quite good for this time of the year. 2PV gets on occasionally with a terrific local signal. Peter is fairly QRL Uni, and doesn't get over much time for ham radio. 2UG is the only phone exponent at Mosman, and makes up for the deficiency elsewhere, as his fone is really fb. 2FM and 2XC have had some interesting tests by swapping over stations. Thanks very for that fb little bulletin of doings, Ian, o.m.

## VK5 (SOUTH AUST.)

Mid-winter conditions now exist in South Australia. Misty rains and damp nights have doubled the number of power leaks, and only hardened hams are landing anything in the way of DX.

On 80 meters local, Interstate, ZL and occasional W phone stations can be heard working all the time. 20 meters is good at times, but it is surprising to see that only a few of the local hams take advantage of the feasts of DX that can be heard on this band from time to time.

The monthly general meeting, which was held on Wednesday, July 11, took the form of a demonstration by the Technical Development Section. There was a large crowd present, nearly 80 members.

The first demonstration was that of a cathode ray oscilloscope working. The apparatus was loaned by the University. 5OA then gave a demonstration of measuring short wave lengths by means of Lecher wires.

5BJ has on exhibition a very neat 59 Tirtet oscillator, which impressed members with the amount of drive it had on 20 m. and 40 m. 5RP was in charge of a large and varied collection of microphones, which range from the old-fashioned carbon types to modern crystal and electro-dynamic microphones.

The institute's frequency measuring apparatus receivers and transmitter were also on exhibition.

5WW is a new ham on the air. QRA is W. Walker, 20 King street, Alberton. Rig for the start is an electron-coupled transmitter and a superhet converter receiver. Another new chap on the air is 5HD. He is 5BC's brother, and as he has his shack at the bottom of the yard there is sure to be plenty of QRM between the two. 5AL and 5QR are still in the country, pounding the keys of their portables. 5BM has not been heard on for a long while now. What's wrong, o.m.?

Rumour has it that 5BJ will get plenty of QRM directly. One of the old hams in his district is to return to the game. 5CX was seen among the crowd at the recent T.D.S. demonstration. 5DO must be having a hard job selling refrigerators this weather. 5GC is heard on occasionally working locals. This ham has a super QRP receiver, using 57 and 56. Plate voltage is about 45 volts at one mill. 5JH and 5MK will soon have to buy new mikes. The old ones are nearly worn out with rag chewing.

5BK has not been heard on lately. 5KH has excellent taste in records for his f.b. 200-meter transmissions. The rest of the 200 m. gang are still fairly active. 5BY can always be relied upon to have a good yarn with WS on Sundays. 5DR still broadcasts the railway engines to BCL's. 5RP has disappointed the BCL's in re-

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cent weeks. Bob has all his time taken up in servicing work.

A dicky bird has whispered that 5LF, one of the old hams in VK5 is getting bitten by the radio bug again.

5LB can now send 25 dots to one dash on his new bug. 5CL, at Caltowie, was heard working a VK3 recently. Evidently the wheat has not overgrown his shack yet. 5LD has been having a lot of trouble getting his 3-stage xtal rig to perk properly. The rig has been responsible for several mysterious noises, which cannot be explained. 5FM was seen at the meeting the other night, explaining to Launce the intricacies of R.F. chokes. Is 5LX coming back? His name was noticed among the list of renewals the other month.

5MD is still playing around with phone. 5SU has been rebuilding his shack in between R.A.A.F. work. 5RH still works DX with his MOPA. 5WP has got his single sig. working f.b. now.

5RT has evidently got over the glamour of the first few months of married life! Bob is present at nearly all the meetings again. Has been experimenting with a Tritet, using a 57 instead of the 59. Bob likes the 57 better.

5RX does a good job for the institute, handling the QSL bureau. George is building up a new xtal rig, and after that intends to try 5 meters again. Seeing the 5 meter rig at the recent T.D.S. demonstration proved too great a temptation for him. 5SR, 5LG's second love, still comes on the air at odd times with a note that sounds like a 15 cycle power station going willy-nilly. Leith says they don't need monitors with a note like that. Perhaps they know what it is like without listening on a monitor.

5WB still remains a 20 meter fan.

5HW can still blind the majority of members with science. Harry recently completed a very successful series of elementary lectures for the institute. At 5LG self-excited rigs reign supreme again after trying with xtal for some months. Rig in use at the present time is a pp. TPTG, using AC044's, with 600 volts on their plates.

5WI has been heard on the air more lately. Someone presented the institute with a 210 so that the transmitter could be used again. Who pinched the W.I.A.'s last 210?

5WJ has a good phone on 40 and 80 occasionally.

5WR is still looking for the ham who used his call on phone, and raised the wrath of the R.I. "Ritch" would like to Rettynitch him.

5YK has not been heard on the air of late. 5ZY must try by QYL, because he has also been missing from the ether. 5KL still keeps a sked with 6CP on 80 and 20 meters. 5LN has been heard on using a 59 in a Tritet. Also has a good quality phone. 5TX is that QRP these days that a lot of the local boys cannot even hear him. James' batteries are just about dead beat. Has anyone heard 5EK and the Granites gang during the last few weeks? They seem to have QRT. 5DT, at Alice Springs, often QSO's the local gang.

5PL, of Quorn, is now in the city, but has not been heard yet. 5CR still breaks up the ether with an unstable RAC note. 5NR still has f.b. modulation and volume behind his fone transmissions. 5GR is not heard on much now.

5RF still blows filter condensers faster than he can buy them. That high voltage tranny and 83 have certainly proved expensive in the long run. Incidentally Colin has designs on a B class ticket.

Would all country hams let 5RF know their QRA's, as otherwise they might lose valued cards. Cheerio and 73s.

ERIC HALLIDAY AND 5LG.

## VK6 (WEST AUST.)

(ZO-6CP.)

The annual general meeting of the above division was held at headquarters on June 21, there being a good muster of xmitting and associate members. The president, 6AG, occupied the chair, and, after the minutes were dealt with, gave a comprehensive report on the year's activities. The council were warmly congratulated on their lion-hearted efforts under adverse conditions, the president stating his appreciation of his team. The balance-sheet and report were received, and show that the treasurer was hard put to make ends meet. "Unfinancial members, please note."—(Ed.).

Both the president's report and auditor's report and balance-sheet were acclaimed in the usual manner by the meeting.

The election of officers resulted in three new councillors being elected, and the team now comprises 6AG, KR, CX, CP, PK, GM, BB, LJ, JK, with good old BN as associate representative.

At the conclusion of the annual meeting the monthly meeting took place. Very little business resulted, but a lengthy and well spoken address by Mr. Schofield, the junior member of the students' class, gave members a full knowledge of the existing conditions of the class. A call for volunteers for Morse and theory classes resulted in thirteen hams offering their services.

The council has not yet met at time of writing, but the classes are already under way, and will be routined by council at its first meeting. In the meantime, boys, keep jogging.

6CP explained to the meeting the condition of mag. sales, and stated that he was going to draw up a schedule for hams to enable a sequence of articles being available for publication. So emphatic was the demand made by CP that BN wished to know the colour of CP's shirt.

The meetings closed at 10.30 p.m.

Since last bullet: things seem to have gone to the pack in VK6. The various bands are unusually silent, and even those with the bug very bad are missing. Of course, conditions on all bands are pretty punk, so this may account for the absence of our lads. This last couple of week-ends on 20 mx. has been a wash-out, much time and patience being lost to even contact a Jap, and a few VK5's.

A few W's at R2 were heard, and Eastern Staters could be heard vainly calling for DX. With so few of the boys here active, it becomes a problem to know just how to fill up our space in the "mag."

Some of the gang are swotting, while others are making plans for that extra special rig in mittens which we all hear about, but very seldom see, or hear, for that matter.

One bright spot in our ham life is the splendid way in which the students are sticking to their guns, determined to get that coveted A.O.P.C.

The council has promised them a good spin for the ensuing term, so let's hope all members stick to their schedule of lectures and Morse practice.

Another thing I would like to remind hams about is that a certain VK5 has complained to me that he has worked eleven VK6's, and has only received one qsl in return for his f.b. card. One station in this State seems to be very unfortunate in not having his cards delivered, as I have had several requests to QSP to him, asking for cards for PKs, ZLs, VK7s, and VK6s. I might also mention that VK4s are on the look-out for VK6s on 80 mx, so, boys, if your sigs strike their cans you are sure of a QSO on this band.

## JOTTINGS.

VK6KR not heard at all of late, so I presume he is getting that exam. into his head thick and fast. 6CX states he is working on 40 mx. Sa, om, where?

6CY, of Fremantle, juggling a MOPA on 80, with fone that would be O.K. if the modulation was constant.

6SR on 80 mx. fone, and states that there are nine tubes in the outfit. "Must be some passengers, I think!"

6JK not yet finished that extra special quick change xmitter. Hurry up, old man, or the gear will be out of date!

6KB's latest is a Marconi sky-wire, four feet from the ground, and worked VK4 on 80.

6WP, back from the place where the golden eggs are found, but has not yet decided what to do with all the eggs.

6SA still putting his shack in order. She will sure be some place when finished. You might invite the gang to the opening ceremony, o.m.!

6AG still resting and keeping 6HM on the air.

6MN again gone comatose. Must be thinking out a new kind of antennae.

6RA heard on 80 mx fone, with SR, but not so gud as usual.

6RW must be lost in the jungle at Wagin, as, after putting his f.b. 80 mx fone to all States and ZL, has not been heard for weeks.

6KP, of Meekatharra, seeking information on motor generators. Must be going to exercise his right to xmit soon.

6FL, of Albany, never heard. Hope you are getting mag O.K., old man.

6FO heard on 40, with a f.b. xtal way up in the frequencies.

6CP doing a bit on 20 on week-ends, and 80 on other nights. Arrangements have been made with the student members to get some Morse practice on Wednesday nights at 8 p.m. on 80 mx. Slow Morse will be sent, and at the conclusion the efforts can be checked by students, as the whole of the code will be retransmitted on fone. Reports will be appreciated.

6RL too busy fixing up BCL sets for the Test matches to get his gear in order.

6KO working shifts when he should be on the air.

6PK, another ham, whose duty of keeping the home fires burning, finds very little time to pound brass.

6GM, MN, NJ, JS all silent.—7.3.

## VK 7 (TASMANIA)

### ZO—TPA.

Hello, gang! Many apologies for missing you last month, but this was due to the change-over of this office. TNC has contributed for the past 18 months, and is having a rest, so I take up the work where our worthy friend has left off, and will endeavour to give an outline of this little island's movement each month. The ninth annual dinner of this div. of W.I.A. was held on June 2 last at the Arcadia Hotel, Murray street, and 35 members and visitors were present.

The visitors constituted Messrs. W. A. Woods (president Listeners' League), E. J. G. Bowden (Deputy Radio Inspector), and Phil. Medhurst. An apology was received from the Tasmanian manager of Australian B.C.

Visiting members (northern and country) present were TBQ, 7JW, 7OJ, 7LZ, 7CK and 7AG. The annual meeting was held at the clubrooms prior to the dinner, and proved to be a good idea.

The annual report and balance-sheet showed good progress. The membership list now reads 69, and only one licensed ham in V.I.H. who

is not a member of W.I.A. There has been an increase of one or two each month to this membership list of late. A field day was held on Sunday, June 3, in which the visiting members took part. These field days are part of the regular programme in V.I.H., and some good hunts ensue. The institute call—7WI—should be heard again in the near future. It has been a task getting settled down in the new quarters, but this is well advanced now. A superhet graces the bench, and perks f.b., and the mitter is in hand for construction.

At the annual meeting 3CN, ex 7CH, and an esteemed member of this div., was voted to a life membership—a worthy tribute. We all wish him good luck. He will be much missed here by his intimates. The present trend of activity here is towards superhet receivers and tritet oscillators. There are several of the former in various stages of construction and adjustment, those concerned being 7BJ, 7JB, 7WI (completed), TPA (also working), and our very active hon. secretary, and there are wonderful visions.

The other—tritet—has aroused much interest, and a lot of speculation; one or two are in operation here, and several to come. TNC has had good results with this rig. He is also a U.H. freq. addict, and is always ready to try skeds, so if interested look him up.

7BQ, I believe, has a weakness in this direction, too, so I think VK7 might look up yet, hi! 7JH still does his share of brass pounding, and is always eager for a chat on 20 or 40 meters. He hopes to graduate to M.O.P.A. with tritet osc. shortly, and also gives the "bug" what-oh between times, hi! hi!!

An old call sign, long silent, is to make its reappearance shortly. Bravo, 7AR. If he can find his way out of the network when finished the assembling he should be f.b. with a four-stage rig, eh, Carl? We often hear the f.b. xtal note of 7JB on 40 mx.

7PA has been silent for some months with few exceptions, but hopes to get going again shortly with a now nearly completed three-stage rig. Also using tritet osc., 59, with 59 buffer doublers and pair 46 C class. The 200 meter rig, and QRL with work has been the hold-up here.

Mentioning the 200 meter band reminds me. The gang here still pump out their canned music on Sundays with some f.b. results, 7CW, 7JB, 7CS, 7LJ and TPA being on regularly.

7WR has not been heard much of late; been trying out series modulation a bit, I understand, and what we have heard has been good.

7RS is another not heard much either. Buck up, Ron. 7HO too much for you? 7DM has promised us a comeback on 200 meters, too.

7CW was in VIB for a few weeks recently, and must have "struck oil." Came to light with a Chrysler just after he got home. Another bus for field days, Crosby?

7JB still chonks round on his old Ek. mobike. They say it knows the country pretty well, Jack.

We don't see much of 7CS these days. Sticks to the fireside, or is it fishing? 7LJ has migrated south again, and is QRL getting things into shape here. Welcome home, Lon.

There are many enthusiastic associate members awaiting the day when they can win their spurs to hamdom. Stick to it, chaps.

Some, also, are suffering YL-itis in a variety of forms. I'm afraid, and can't find the time to attend monthly meetings even. Brisk up, lads, and make the YL understand that you must have another hobby. Before concluding, I would like to mention the first monthly meeting for this year, held on July 3. Attendance was only fair; general business was attended to. Tassie's "grand old man" of rad'os, 7AH, president for the ensuing year, occupied the chair. We are all pleased to see you there. Pop. We need a few more of your type amongst us. 7GE tendered

his resignation to the position of QSL manager. He has been transferred to the mainland; another VK7 gone. Good luck, George. We hope to be able to hear your call still. Nominations were received for QSL manager, and these have been dealt with by the committee, the result being that VK7JB has been elected to this office.

7RB wound up the meeting with a lecture on "echo" effects, both long and short duration, and answered questions on the subject, which was very interesting to all.

While mentioning Rhudolph, I think it is in order to say that his 200 meter QRT rig. is truly QRT, as he has abandoned the idea.

All QSL bureau managers are requested to note the previously mentioned change. 7JB's address is: J. Batchler, 21 Quarry street, West Hobart.

## HARMONICS

According to information received from VSAF, all radio "fans" in Mauritius are having a run of bad luck, because the Government of the island have decided to issue and charge for a licence for every receiver owned by each person in Mauritius.

Last month it was published that VU2FY, of India, had announced his intention of entering for the Centenary contest. This month the fact has to be chronicled that VE9SJ, of Toronto, Ontario, Canada, has intimated his intention of rising at 4.00 a.m. in October, during the contest hours, for the sole purpose of qso's "VK." VE9SJ is the radio inspector for VE3, so please give him your attention.

FE3AOG! Yes, it is a licensed amateur call, despite its odd looks! It is the experimental call, often heard on 7 mc, of the Radio Chef, Aviation Station, Gao, French Soudan, West Africa.

The ambition of VK5HG is to have 1000 qso's with W2CC. What an ambition! There is a good chance of the objective being reached, as less than 200 qso's remain to be got. Good luck, Coop, o.m.

—Bers, 195.

Our VK QRP contest was good fun, but once again the En Zedders take the bun. Two of them worked on 80 mx during the contest, and were using respectively P.P. 201A's and 171A's, each with 45 volts on the plates from B batts. 1500 miles with half a watt input—3000 miles per watt. They were ZLIBD and ZL2CS.—(VK3KO.)

VK3EG has purchased the local disused reservoir, which is situated on top of one of Tallangatta's many mountains, to house his gear. Two 60 ft. pine trees on either side will make an f.b. antenna. Ivan now gets R8 from W on 20 mx. What will happen later? He will be struggling up the slopes with his gear for the next couple of weeks, and then for DX, or sending CQ from the bath tub.

### Verbatim Copy of a BCL Report received at 2UO in September, 1933.

Queenstown, Tasmania.

Sir.—I was listening the other night on the short wave at 9.15 p.m. And I picked up over the waves at such strength that I am curious to know what power you were using it was coming in at such strength that I had to cut back the volume for good reception it was as good and clear as 3LO on broadcast and can you tell me what wave length CQ is using which I heard you calling nearly every Ameture I pick up are call for CQ I remain

Yours sincerely

(Note.—The spelling is as the original, likewise the punctuation.)

### Q.R.Z.

#### Something of a "Tone" Poem. By Toc H.

Who is this bird signed QRZ?  
Who never seems to go to bed,  
But wears the fones all night instead.  
Perhaps the blighter's current fed?

Who is this guy, that having writ  
Sarcasm, every word of it,  
Thinks that his gags contain some  
wit?

No ham! for such 'twould seem unfit.

What kind of egg can this cove be?  
Who never seems; at least to me,  
To credit decent PDC,  
Or knows what's meant by RAC?

What type of insect dares to write  
Thin veiled contempt in black and  
white,

Behind a pen-name sitting tight,  
Afraid, 'twould seem, to face the  
light?

Come forth, my friend, let hamdom  
see

The sort of Gargoyle you may be,  
And if your fist can thump a key,  
I'd like to QSO with thee.

—VK2TH.

### STANDARD FREQUENCIES.

The Technical Development Section of the Victorian division has commenced work on a standard frequency meter for use as the Australian standard for W.I.A. members. No definite transmission schedules have been drawn up as yet, but it is expected that within a few weeks the service will be in operation. Radio VK3ML will most probably be employed as the S.F. station, and institute members may have their frequency measured by calling this station whenever heard. Watch for further announcements.—Tech, Ed.

In YOUR station, in YOUR brainbox, there is surely something that would interest others. Write it down, and send it along to us. We want YOUR article. WE'LL do the rest. Thanks in advance.—ML

A chap can be in the ham game for two reasons:—(i.) For what he can get out of it, and (ii.) for what he can put into it. Be one of the latter, and send along an article.—ML

### SILENT KEY.

We regret to announce the death of VK3RQ, who was killed in an accident in the city recently. 3RQ did a great deal of work with crystals, and was instrumental in getting many a newcomer to crystal control on the air. His fist will be missed by all hams, and we wish to convey our deepest sympathy to his relatives in their sad bereavement.

# R.A.A.F. Wireless Reserve Notes



**VMB**

Total No. of  
Messages **327**

Average per  
Station **46.7**



**VMC4**

Total No. of  
Messages **333**

Average per  
Station **66.6**



**4B3**

Total No. of  
Messages **121**

## Notes and Activities.

### Federal Notes by the C.O.

August, 1934.

It is very satisfying for one to go away from the country and return after two months' absence to find the reserve still pushing ahead and activities greatly increased. This was the case during my visit to ZL. It immediately shows that a strongly organised body of operators can carry on and give their district commanders whole-hearted support. It also shows that the district commanders have learned to be independent of Federal supervision when it comes to training their own district. Such should be the case when a D/C calls upon his deputy to carry on the work during a period of absence. It is a recognised thing in any service that every man should be prepared to undertake the duties of the man above him at a moment's notice; and this, of course, applies to the reserve. A member should not only study his duties and work, but those he is commanded by also. That is why we have each reservist a section leader for a definite period. He feels that some responsibility is his, and it teaches him to become a leader; it makes him understand what it is like to have 100 per cent. co-operation from his section members, and how it feels when co-operation is lacking. Thus when he goes back into the section after serving his period he is more keen than ever to support the new S/L.

The reserve has established a name for itself the world over. In New Zealand the amateurs were very keen to learn of its activities and doings. They knew a lot about it, and displayed great interest when the organisation was briefly outlined. And we have had inquiries from England as to what our reserve is, and how it functions. No one but the members themselves have been responsible for making this name, and it is the duty of new-comers to work hard and keep the R.A.A.F.W.R. before the eyes of the world as being an enterprising unit recruited from the ranks of the hams.

With new members coming in at various intervals it has made the work of the D/Cs more difficult to cope with. Furthering the training of early enlistments and looking after new ones has proved unsatisfactory. Attention cannot be devoted to two directions, and consequently it has been decided to call for applications for enrolment only every two months. This means

that a batch of recruits can be trained to a certain standard together, and then put into a section for advanced training. The months in which applications can now be made are:—January, March, May, July, September and November. All applications are to be made to the Commanding Officer, R.A.A.F.W.R., R.A.A.F. Headquarters, Victoria Barracks, Melbourne.

Before the next issue of "A.R." it is expected that the full membership register will be supplied to all reservists.

### SECOND DISTRICT NOTES.

(ZI—VK2BP.)

The active members in VMB have been hard at work this month, with the very gratifying result that the average number of messages per station stands at 46.71. This district total, together with section VMB3's average of 56.33, and 2C3's excellent effort in originating 81 messages should put VMB right on the spot with the monthly awards in "Amateur Radio."

Notwithstanding a "drive" toward getting VMB's inactive members to keep watches, none of them have done so. However, by the time this appears in print a complete reorganisation will have been effected, whereby all present active members will have been banded together into two complete sections:—VMB1 and VMB2. The non-active members will also have been reallocated call signs, and will have been given two months to decide whether they become active or be recommended for discharge from the reserve.

This step has become necessary, as all four previous sections were broken up, in having only two or three active men in each, whose progress was being retarded by those who either never kept watches or did so about once a month.

Under the new regime VMB will have twelve active members, whose ability to handle traffic is fast approaching "flawless," and when these men settle down in their new sections a contest will be staged, when they will be permitted to prove their ability. However, it should be understood by all active members—that is, the whole six in each section—that they must pull together if the high scores and averages are to be maintained.

ZI has not taken active part for some weeks, owing to illness, but this month's traffic totals have been the best tonic to date. ZI2 has been

keeping district watches during the indisposition of 2ZL. 2B2 is maintaining schedules with low power apparatus, and is building up a new receiver.

## Traffic.

VMB.—327; average, 46.71.

VMB2.—158; average, 39.5. 2B1, 29; 2B2, 40; 2B5, 46; 2B6, 43.

VMB3.—169; average, 56.33. 2C1, 34; 2C3, 81; 2C4, 57.

## THIRD DISTRICT NOTES.

(3ZI—VK3UK.)

The first month of the new reserve year is under weigh, and the first section leaders have settled down, and are doing a very fine job. We have entirely reviewed our present mode of conducting schedules, and are planning a number of big changes. A meeting of all metropolitan stations will be held early next month to discuss the new ideas and views of all members, and thus formulate a plan of action for the coming year. This should not only hold efficiency at a high level, but should also provide many new and interesting phases of co-operative work.

We were very pleased to have 3D1 down here with us for the W.I.A. annual general meeting. 3A4 was going to make the trip, but owing to a number of untoward circumstances arising at the last moment he was unable to be present. 3B6 had a portable away in Gippsland with him during his holidays, but was unable to get on the air very much because of the short duration of his stay.

On July 13 and 14 the inter-varsity chess match between Melbourne and Sydney was put over by 3ZI and 2B6. Not only were conditions good, but the four and a half hours on each night proved practically QRM-less, which added very considerably to the enjoyment of the "stunt." We have discovered a few chess players in our midst, and I believe that VMB has a few also, so it is more than possible that we may have an inter-district chess contest one of these days!

3ZI would like to hear of all Interstate reserve men who will be able to get to Melbourne for our VMC convention, which will be held during the first two weeks of November. This period coincides with some of the biggest Centenary attractions, and the fact that all the air race machines will be here should prove an added incentive to those proposing to make the trip. VMC stations from all parts of the State will be here en masse, and it will be a wonderful opportunity to have a reserve and ham get-together such as we have never had before. We can promise that the fun will be fast and furious, so try and make this a convention really representative of all districts.

The leading scores in the VMC traffic contest, which was held last month, were:—3A5, 451; 3C5, 446; 3C6, 309; 3B2, 299; 3C4, 245; 3D3, 140; 3Z2, 110; 3D2, 106; 3E2, 100.

The two leading traffic stations this month are 3D2 and 3D3, each with 83 originated messages.

## 4th DISTRICT NOTES.

—4ZI—VK4AW.

Since the last monthly report two more members have been appointed to VMD, namely, 4E1 and 4NG. Both these members will create activity and swell the traffic totals, as their enthusiasm on amateur bands is very prominent. VMD2 put up the largest section score for the month by the work of 4B1 and 4B3, who work watches at all hours to pass the time away. 4B1 now uses a TCO3/5, and gets CC reports from

the B batteries. He intends applying for a transfer to the Western District, partly to provide a large VMD2 net. 4B3 is applying for cadetship in the Air Force, so maybe we will lose him. 4B2 is off the air rebuilding the transmitter, using a 59 as CO and 46's in the PA, and when completed will be one of the most up-to-date country transmitters using petrol engine alternator set in VMD. 4A3 is keeping watches with 4A4, but is finding local power noises and BCL trouble on 4000 kcs. 4A1 has asked to be relieved of S/L duties owing to pressure of business, and 4A2 has no power supply as yet, hence no report this month. 4Z2 has not taken over deputy D/C work yet, owing to business duties, and is going to be very unpopular with 4Z1 if he does not do so shortly! Wednesday watches have been renewed with 1A1, and is very pleasing to hear the C/O on the air again.

## Traffic Totals.

VMD.—301; 4A3, 10.

VMD1.—33; 4A4, 23.

VMD2.—227; 4B1, 116. VMD2, with 4 members active, averaged 57 messages per head.

4Z1.—41; 4B2, nil; 4B3, 121.

## SIXTH DISTRICT NOTES.

It was with regret that nothing appeared in last month's issue of this mag. Up to then monthly reports had been forwarded by radio, but watches fell through, and as it was too late to send the dope over by mail it had to be left on the hook.

So this month no risks are being taken, and the dope goes into a mail box.

The departure of 1A1 for New Zealand coincided with a lapse of activity in VMF, due to various reasons in most cases which were uncontrollable. For the last few weeks roll-calls have been very poorly attended, but by the time this appears in print activity will be resumed, and VMF will be exercising weekly and mastering procedure as per training manual.

Skip distance plays havoc with keeping in touch with country members, not to mention local QRM from machinery, etc., which makes training problematic. But with the advent of 6A1 coming on the air again from Northam, this may be partly overcome. The following comments will give an idea of the doings of members.

6Z1 has been planning a lengthening of his shorter stick, and this will be eventuated next week-end, when the 28-footer will shoot up to 54 feet.

6Z2 has been suffering from a bad attack of flu, which has curtailed his usual activities.

6A2 fell victim to the prevailing germ, too, and coupled with another spasm of rebuilding has made a retreat into his shell, but promises an R9 comeback in a few days.

6A1 has got settled down in his new quarters, passing the time of day (and night) at the new B class BC station at Northam. Didn't take long to get a bottle perking, though, and resumed watches in record time.

6A3 was heard one watch, and then the local golf club claimed his attention to play some matches. Ears are strained weekly to hear if he has resumed watches. A few miles away from 6A3 a new member has just received his call, namely, 6A6. Word being awaited for this newcomer's announcement of going on the air.

6A7 was unfortunately delayed in getting his gear together to make a start, but keeps in touch with marked enthusiasm, which makes us wish he was on the air.

6A5 is troubled with local QRM, and cannot get a signal above noise level on the 80 band.

Skip kills 40. So 6Z1 is scratching around for 500 watts to overcome the difficulty (oh, yeah). Thus endeth the doings of VMF's eight members. A few prospects are hovering in the offing. It is rumoured 6B0, who has been marooned in Carnarvon for a while, is going to shift to Perth. He will be enlisting if that is the case. Then there is 6FL, now at Albany. He has not managed to get a bottle perking yet. Had trouble with power, but, like a true ham, shifted to a new QRA within cooee of 440 DC supply, and got masts hoisted. So there will be one new member shortly. The Wiluna gang, which includes at least three Jams headed by 6FM, keeps mighty quiet, and information of their activities is as scarce as rain in VME. One would think that we would hear more of them.

Who said traffic totals? The gang here have qualified for the booby prize! Wait until next month, though. Our totals may surprise you.

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### USEFUL DATA.

To those of our readers who have not yet purchased the Radiotron Designer's Handbook, which has been made available by Amalgamated Wireless Valve Co. Ltd., we would strongly recommend immediate action. This book is so popular that another edition has been made available, and the information it contains is of definite value to every man in the game.

The contents, briefly, consist of: Formulae; Calculations; Transformer and Circuit Design Values; Valve Characteristics; Wire Tables; Charts, etc., etc.

Some of you, doubtless, have some of the information already in your text-books, but to our knowledge there is no other publication available with so much of this useful information packed in the one issue.

Priced at 1/6, copies may be obtained from the Magazine Committee upon application, or by writing to Amalgamated Wireless Valve Co. Ltd., Fourth Floor, "Wireless House," 167 Queen street, Melbourne.

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### STOP PRESS.

As we go to press we learn that Vaughan Marshall, VK3UK, is on the sick list, and has been ordered a complete rest by his doctor. As Vaughan is a very enthusiastic member of the magazine committee, we all wish him a speedy recovery.

Owing to the lateness of arrival, notes from the Waverley Radio Club and Zone 6 A.R.A. have been held over until next month. Correspondents are advised that copy must be in not later than the 20th of the month.

### "PORTABLES"

By 2NS and 2YB.

Some time ago Trevor Evans (VK2NS) and Bill Lewis (VK2YB), who are both enthusiastic motor cyclists, conceived the idea of using portable radio in conjunction with the Australian tourist trophy motor cycle races, which are an annual event in the Bathurst district of VK2. When the idea was put to the Auto Cycle Union it was received with much acclamation, hence many "skeds" and much discussion between 2NS and 2YB.

The course on which the races are run is a road circuit, approximately seven miles around which is made available by the local shire council, and it was decided to place one portable about half-way round the course for the purpose of signalling the numbers of the riders as they passed on each lap. These numbers were passed on to the public address system announcer, thus keeping the spectators in touch with the progress of the races when there would otherwise be a dull period while the riders were out of sight. Although, fortunately, it was not necessary, it was also an important link with the race officials to call assistance in case of accidents.

The necessary gear was supplied by 2NS (he being located at the scene of operations), and consisted of two transmitters and two receivers. For the end where the P.A. system was installed, and where A.C. lines had been made available, the transmitter was a Hartley with 350 volts of R.A.C. to a 205d valve and the RX was an E.C. job, using a 57 and a 2A5. This was operated by 2NS as his machine was entered in the handicap race, and he naturally wished to be handy to arrange things for his rider. The other end, which was operated by 2YB, was battery operated (2200 volt mains run close handy, but who wanted them?) Hi. This transmitter was also a Hartley, using a 201A supplied with 180 volts from four blocks of "B" batts. The receiver was a three-tube (detector and two audio), with only 45 volts on each tube. Both skywires were of the A.O.C. type, each being supported at the free end by a 20-foot piece of hardwood tied to fences. Hi. Small aerials (about 15 ft. long and 3 ft. high) were used on the receivers, and since the distance airline was only

about two miles and the PDC (Hi) sigs were R3 very FB break-in was used throughout.

To ensure accuracy, break-in was almost essential, as it only took the riders about three minutes to cover the distance between the stations, consequently stragglers would still be passing 2NS, while the leader was passing 2YB, and with the resultant QRM queries were sometimes necessary. 2NS swears that it is much easier to copy South Africans than to copy our R9 sig through the QRM from a bunch of well-tuned TT replica "Rudges" and the international "Nortons" doing some 80 m.p.h. with straight-out exhausts. Hi.

Early in the day 2VJ arrived to view the races, and was promptly appointed second op. to 2YB, and did very good work checking riders' numbers, and keeping small boys from the line of vision; also rounded up a pup which wanted to investigate the R.F. in the transmitter, Hi. Another "ham" to put in an appearance was 2OD, who paid 2NS a brief visit.

A violent and somewhat monotonous form of QRM was prevalent from gentlemen who would rush to 2NS when he was endeavouring to copy a batch of numbers from 2YB, and wanted to know "who won the Doncaster?" or "could he listen to the description of same?" Alas, after Trevor's somewhat colorful reply they would wander sadly away, never to return.

The two stations were in operation almost continuously from 9 a.m. to 5.30 p.m., and statistics show that over 800 numbers would pass 2YB in that time. In one race there were 46 entries and the "ops" were certainly kept "opping" when these came through in bunches.

At the conclusion of a very FB day it was unanimously agreed that "ham" radio had added greatly to the interest in the races for the spectators as well as giving the operators some experience of operating under open-air conditions.

Should any reader have heard either of the stations, both operators would greatly appreciate reports, even though the reports are somewhat belated. 3.5 mc. was the band used, and many Interstate and local hams were heard during the day at strength varying from R6 to R8 on the small aerials. Owing to being very QRL no time was available for QSO's.

CW was used in preference to phone, because of the aforementioned QRM, hi.

New rooms having been secured for the headquarters of the Victorian Division, it was decided to vacate our old rooms on Saturday, July 28, and members who took part in the rather big job of moving all the gear had quite a hectic time. Work commenced at 1.30 p.m., and by 7 p.m. everything had been transferred to the new building, the W.I.A. being greatly indebted to Mr. Kinnear, who very kindly made available the use of a motor truck and block and tackle and ropes with which the aerial masts were dismantled from the top of a six-storey building, and hauled up to the roof of the new building, also six storeys. The following members unselfishly devoted the whole of their time on a Saturday afternoon in the interest of the institute:—3KN, 3TH, 3UK, 3WG, 3ML, 3XR, 3NY, 3PS, 3XJ, Mr. Fred Rees, 3DH, and several other transmitting members and members of the short-wave group, whose names are not known. Another working bee will be held at the new rooms, 191 Queen street, on Saturday, August 11, when the masts will be erected.

## HAMADS

Payment in Advance.

Rates.—To Members of W.I.A. and Affiliated Bodies, 2d. per line or part. Non-members, 4d. per line or part.

Sell or Exchange.—One 0-250 Mill DC; one 0-1 amp. Thermo; one 0-15 volt A.C. large Jewell Meters. What offers; Any Westons? VK3ML.

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